W. R. C. Smith publication

FIFTY CENTS

Textile Industries

Formerly "COTTON"

DECEMBER, 1958

NEW EQUIPMENT
at Greenville, pages 149 - 170
at Manchester, pages 88 - 91

Protect wool in process
page 69

Maintenance record system
page 72

How to keep seconds down
page 74

Shedding losses can be cut
page 79

Chemists probe wash-and-wear
page 85

Save $$$ with statistics
page 98

Posters on carding, blending
pages 101 - 104

Knitting section

University Microfilms
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Ann Arbor Mich 4

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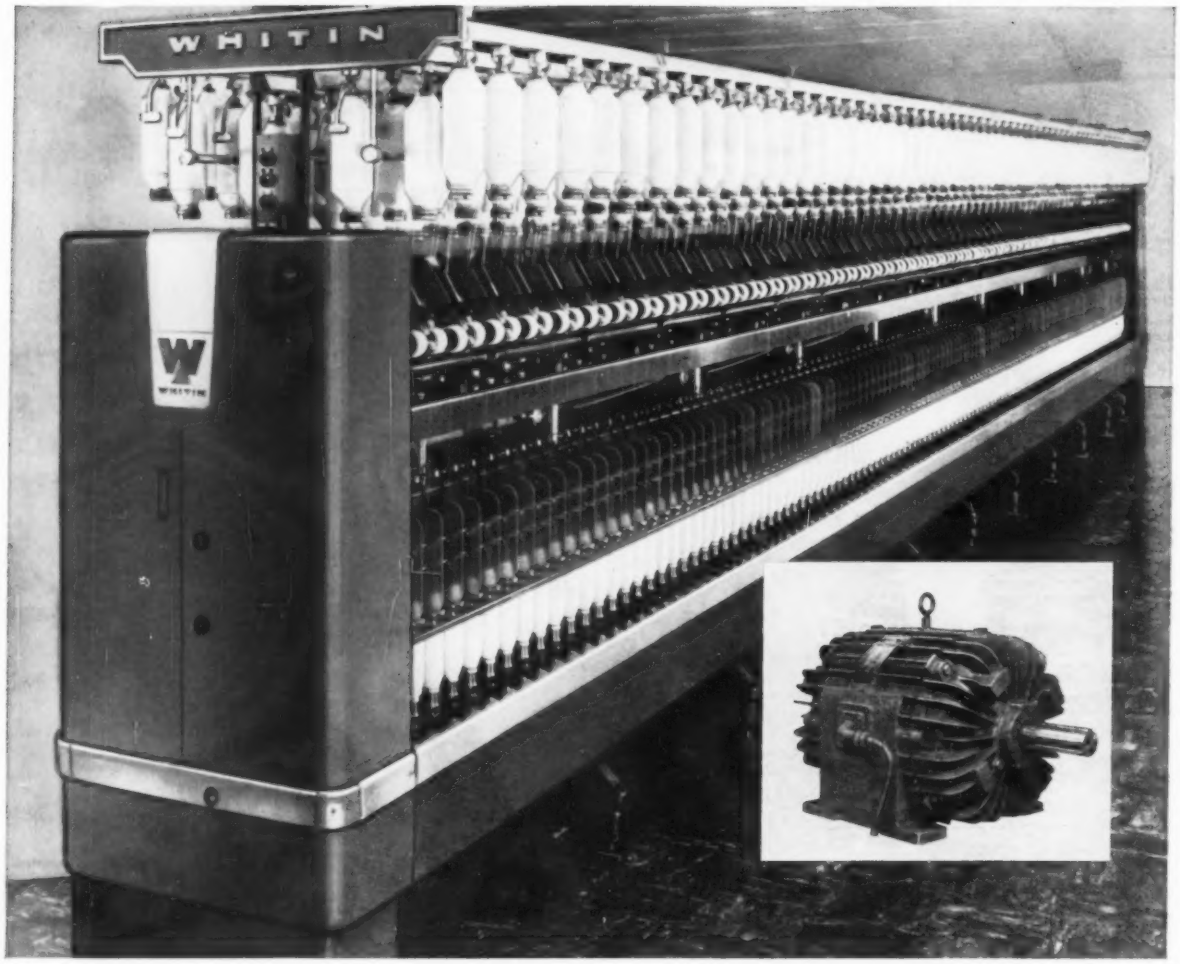
Index of articles which appeared in TI in 1958



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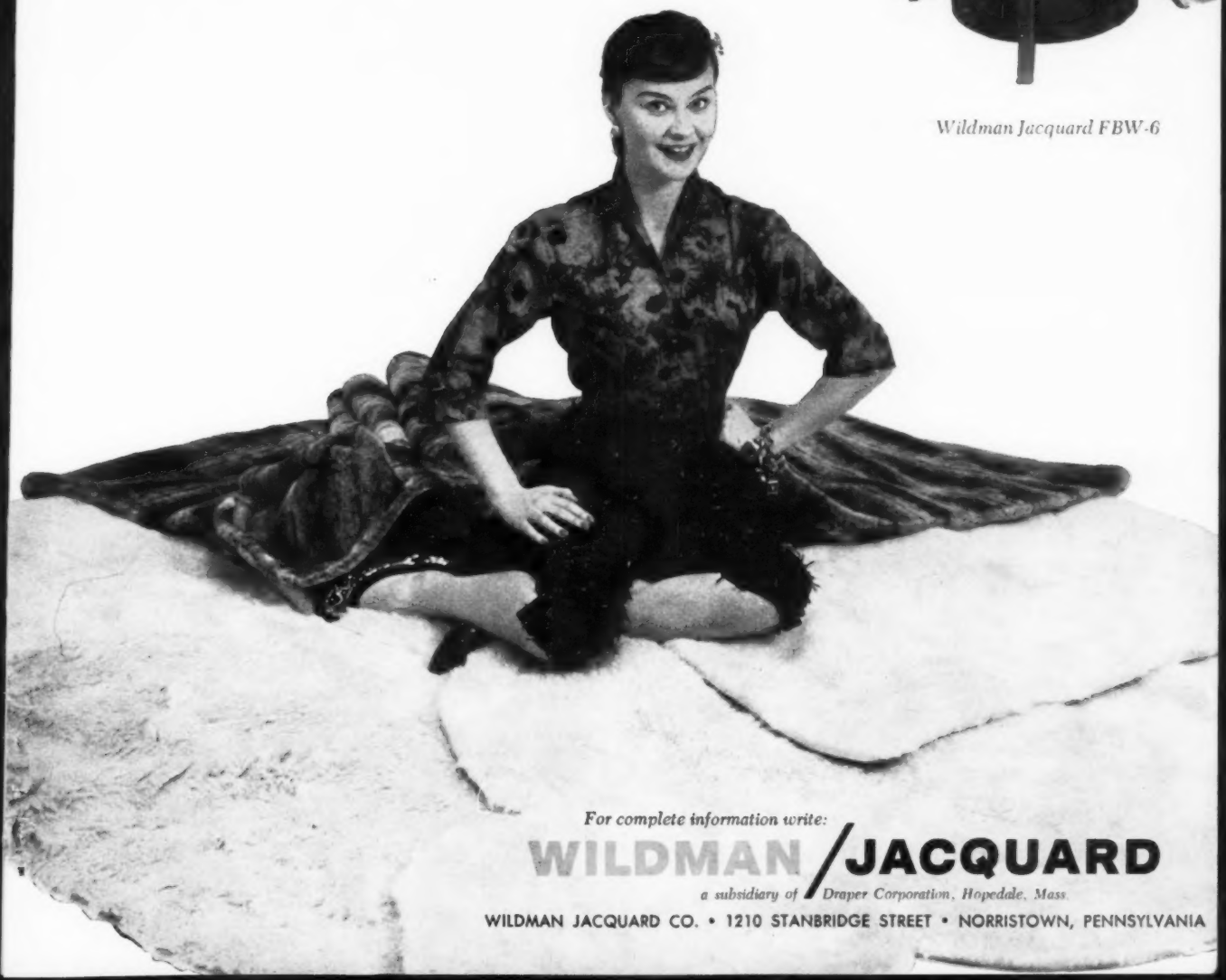
Wildman Jacquard FBW-6



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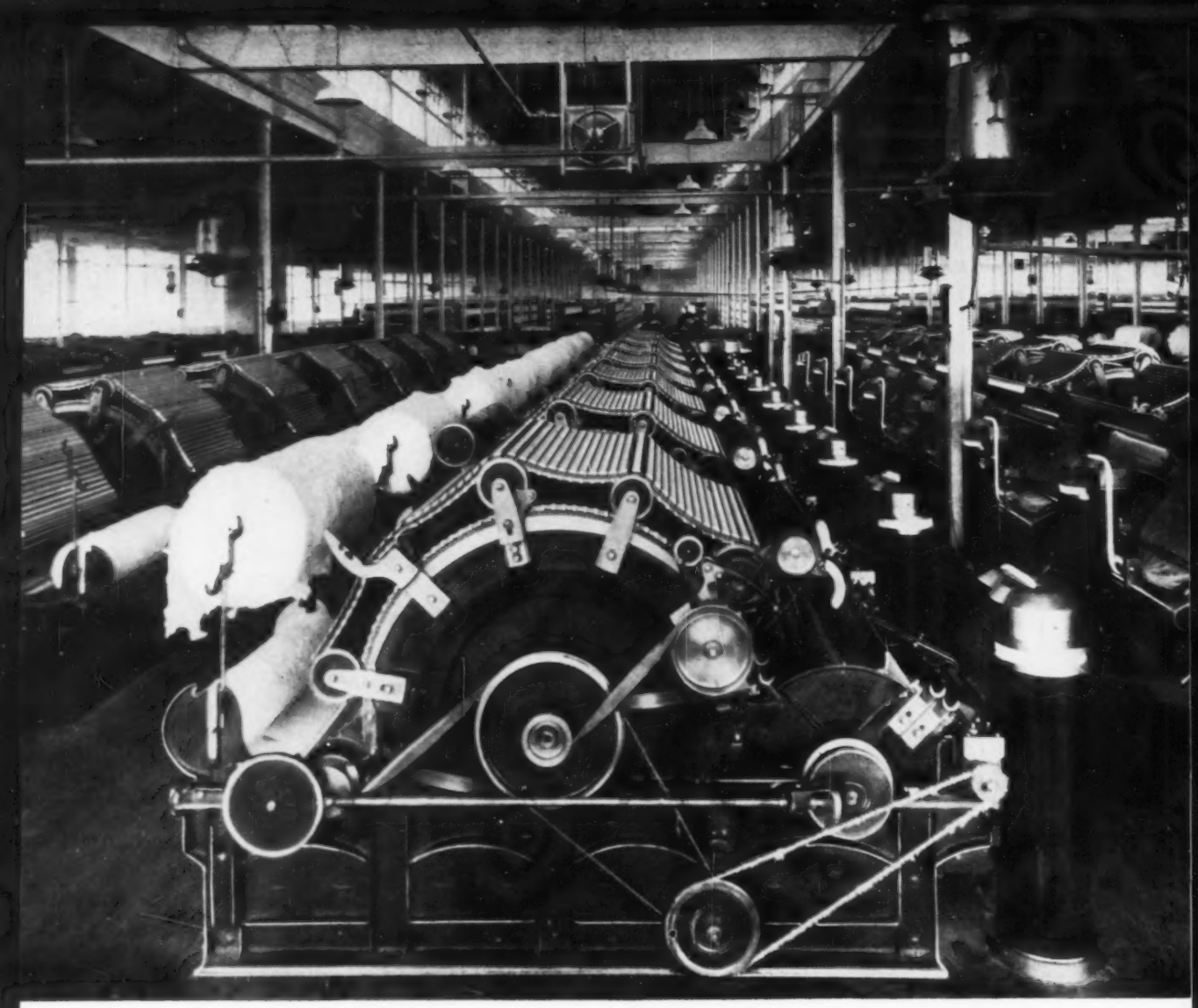

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(PARTS, INVENTORY, PRODUCTION, DOWNTIME, MAINTENANCE)

NBP BPA

Textile Industries

Vol. 122, No. 12
December 1958

CONTENTS

Copyright 1958 by W. R. C. Smith Publishing Co.

Major articles digested for quick reading on page 4

Management

Records Help Management and Overhaulers 72
Faster Machinery Depreciation Called For 84
Here's What Was New at Manchester 88
You Need a Personnel Technician 93
Save $$$ with Statistics 98
Inventory Control Board 111

Cotton & Man-Made Fibers

How Weave Room Folks Can Keep Seconds Down 74
Automatic Frame Vacuum Cleaner Developed 76
Preblending Cotton (S.C. Div. STA) 77
Recleaned and Blended Cottons Not "Cottons" 78
How to Cut Shedding Losses 79
When to Check Neps (N.N.C.-Va. Div. STA) 95
How to Control Pilling (Canadian Seminar) 96
Why They Like Antifriction Top Rolls 97
Poster No. 29 for Cotton Card Rooms 101
No Broken Quills in Six Months 107
Blend to Save Money (TQCA Meet) 113
Gives Protection to Laps in Storage 131
Card Doffer Comb Fan Cleans 132

Wool

How to Protect Wool in Process 69
Miniature 3-Cylinder Woolen Card Developed 76
How a Felt Mill Boosted Customer Confidence 108

Knitting

Straightening Knitting Cylinder Slots 129
Seamless Knitting Speeds 135
Knitter Hints No. 52 (Use Sharp Scissors) 139
Women's Stretch Hose Standards 140
Machine-Made 4-Yarn Overplaid Hosiery 143
Data on Equipment in U.S. Tricot Mills 145

Wet Processing

85 Cotton Chemists Probe Wash-and-Wear
105 Acid Fume Damage Kayoed
115 Oil Fog Cuts Costs
125 Raw Stock Presuure Dyed and Dried

General & Technical

92 Operation Facelift at Goldtex
94 World Cotton Consumption Exceeded Output
104 Poster No. 30 for Blending Rooms
106 Fiber Consumption Lowest in 13 Years
106 Radiological Lab at N. C. State
110 Save Water and Trouble
117 How to Get Good Resúlts in Napping
127 Needle Penetration Tests for Fabrics
129 Try This When Threading Sewing Machine
131 Use Different Drill Point for Thin Stock
131 Desk-Top Pencil Holder
132 Easy Way to Know What's on Hand

Departments

8 Shorts and Remnants
31 Personal Notes About Men You Know
53 News in Brief
65 An Executive Views the News in Textiles
67 Future Events
125 How Other Men Manage
149 New Product Parade
175 Helpful Booklets Free
192 What the Textile Mills are Doing
198 Suppliers News

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TIME SAVER for busy readers

Here is a summary of some of the major articles in this issue

Use it to organize your reading time most effectively

Protect wool in process 69

■ Application of EQ-53, a DDT emulsion, during scouring protects wool in process from insect damage for less than ¼ cent per pound. U. S. Department of Agriculture and Lowell Technological Institute researchers describe laboratory, pilot plant, and semipractical mill tests of EQ-53, and tell how to use it on a production basis.

Help for management, overhaulers 72

■ A simple system used by China Grove Cotton Mills Co. for records of maintenance and overhauling saves time and was easy to install. It provides the superintendent with the information on each machine that he needs to supervise the overhaul maintenance, production, and quality phases of his responsibility.

How to keep seconds down 74

■ Mill men agree that it costs the same amount of money to manufacture second grade cloth that it does to produce firsts. Here is a set of basic rules for the first team—quill overhauler, battery filler, weaver, fixer, and second-hand—in the game against seconds.

How to cut shedding losses 79

■ Mills can make significant savings by controlling shedding; specifically, in the improvement of the slashing operation to minimize shedding. This article discusses three approaches: size formulation, size preparation, and size application.

Here's what was new at Manchester 88

■ TI's European correspondent describes the new machinery and equipment displayed at the recent International Textile Machinery and Accessories Exhibition held in Manchester, England. His report follows this outline: preparatory and spinning, tow-to-top and tow-to-yarn, twisting and winding, textured yarns, nonwoven fabrics, weaving, tufting, wet processing, and laboratory and quality control.

Operation facelift at Gold-Tex 92

■ The older mill brick buildings at Gold-Tex Fabrics Corp., Rock Hill, S. C., recently got a cosmetic treatment of gray paint sprayed on at 160 to 180 F nozzle temperature. According to the plant manager, the results not only protect the building, but are both a community improvement and an employee morale booster.

You need a personnel technician 93

■ "You wouldn't hire a personnel man to do engineering; why let an engineer or accountant do your personnel work?" asks the author of this article. He shows how an experienced personnel technician can save money for the mill. He can help to reduce employee turn-over, and through keeping employee morale at a high level, minimize the likelihood that the mill will become a target for union organizers—or help you to live with a union, if you already have one.

Save $$$ with statistics 98

■ The author tells how statistical methods are among the tools the supervisory staff of the mill can use to reach this objective: "The largest production of the best quality at the lowest cost."

No broken quills in six months 107

■ An improved transfer fork with a foam rubber bumper has been in operation on E-model looms weaving 80 x 92 print cloth for three shifts a day, five days a week, for six months without breaking a single quill.

"We boosted customer confidence" 108

■ American Felt Co., Glenville, Conn., has installed an electronic metal detector, with which pieces of card and fancy wire, babbiting from bearings, fragments of raw stock baling wire, and other mysterious bits of twisted metal have been trapped before they got into the company's product.

Seamless knitting speeds—how fast? 134

■ Are you a "speed demon" when it comes to hosiery machines? Do you know how fast a hosiery machine can be run *profitably*? Excessive speeds can actually *increase* your unit costs.

Standards for women's stretch hosiery 140

■ The author discusses the standards for stretch hosiery developed by Patentex, Inc., and approved by the National Association of Hosiery Manufacturers. He suggests that the standards should be extended to cover needle width and finishing practices.

COMING NEXT MONTH

■ In the January, 1959, issue of TI, look for articles on how Dominion Textile Co.'s Magog Division standardized printing production, a discussion of the current recovery in textile business, the importance to cost control of knowing your waste factors, and several "how to" articles—how to finish men's wear fabric blends, how to reduce loom stops, and how to use metallic threads in towels.

TEXTILE INDUSTRIES is indexed in the "Applied Science & Technology Index"

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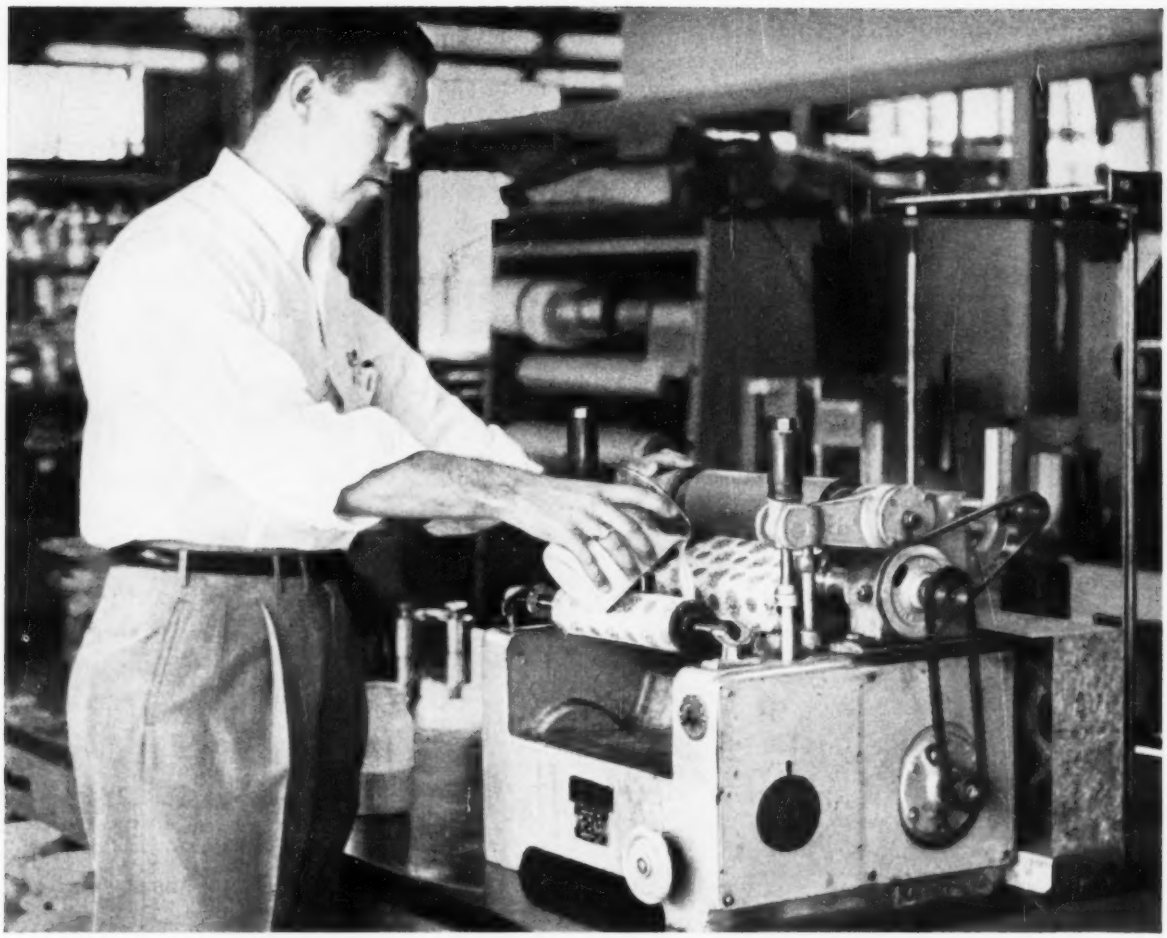

Want to add "plus" to your fabric quality?

You're probably already working toward improved washability, better wearability and greater wrinkle-resistance–the "plus" qualities in ever-increasing demand in today's market. Or maybe you're seeking to improve body, drape, strength or dimensional stability. You're well on your way to solving any of these problems–when you start with a latex by Goodyear.

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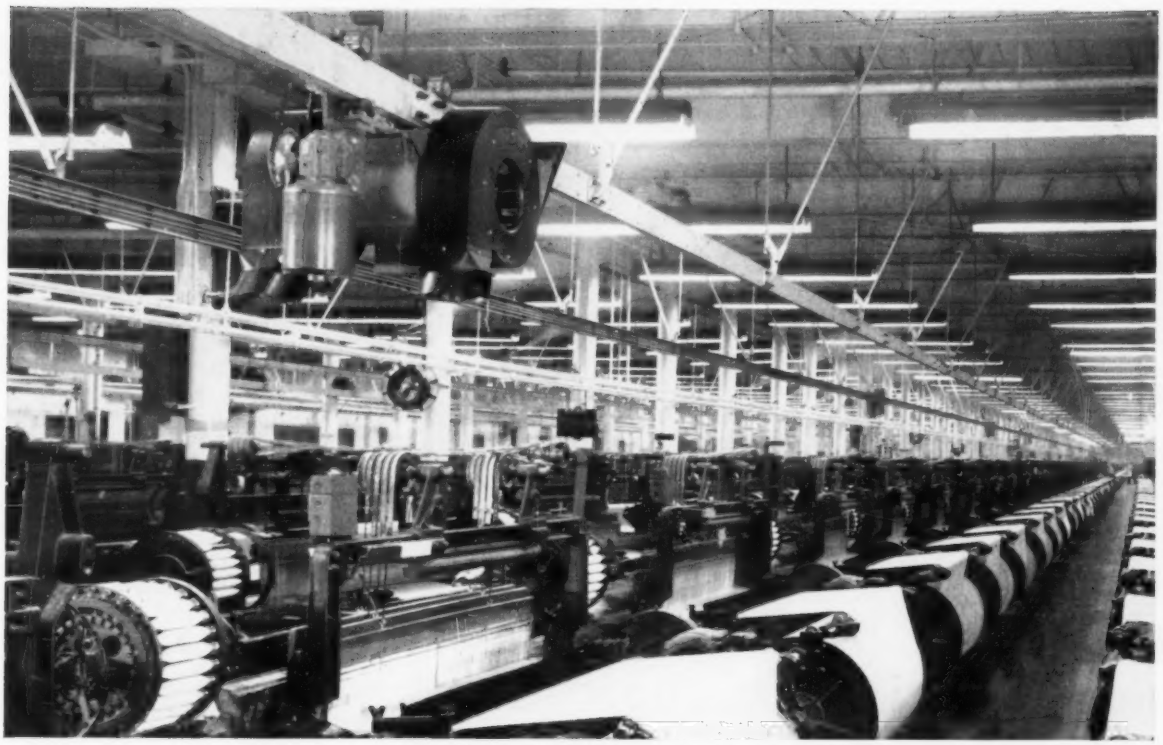

AUTOMATIC CLEANING where overhead track brings full air sweep of loom cleaner to every loom on the floor, without disrupting loom operation, keeping looms free of accumulated waste.

KEEPS LOOMS CLEAN . . . WITH NO DOWNTIME

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Amco Heliclone Loom Cleaners may be used for the automatic cleaning of practically *all* makes and types of looms. A unit similar to the Heliclone is also available for winder cleaning. Write American Moistening Company for further facts.

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- Cuts loom cleaning and costly downtime
- Improves production and quality of fabric
- Reduces fire hazard
- Improves weave room appearance
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Shorts and Remnants

by J. C. C.

► Well, that "Good King Wenceslaus" and "God Rest Ye Merry Gentlemen" season is here again, and here's old St. Nicholas himself. . . .

. . . . with all his red Santa Claus suit extra big. Now you just figure out how many Santa Clauses there are all over the world with Santa suits, and that's more textiles.

Say, wasn't it the Ala. Cotton Mfrs. Assn. that suggested "For Christmas—give textiles" [and Bob Pomeranz of Roberts Co., as reported on p 53 of this issue]? We quoted that last June, and we hope you are following ole S&R and giving hosiery, lingerie, ties, Indian and cowboy suits, shirts, socks, sheets, carpeting, tents, dresses, suits, etc. Anybody know to whom you can give a tarpaulin or some filter cloth? Let's do it up right.

Maybe Christmas is a good season for a boost to textiles. It looks as if Christmas 1958 will be a brighter one for the industry. "The New York Times" quotes **Halbert M. Jones,** Laurinburg, S. C., Pres. Amer. Cotton Mfrs. Inst., on the current textile picture. In part Mr. Jones says: " . . . the textile indus-

Roberts Latch-Type Bobbin Holder

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- Retainer type ball bearing for uniform rotation
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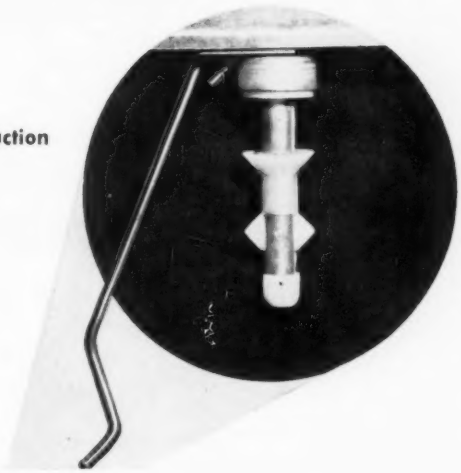
- Automatic latching and bobbin release of simple sturdy construction
- Mounts easily on creel channel or on wood creel boards



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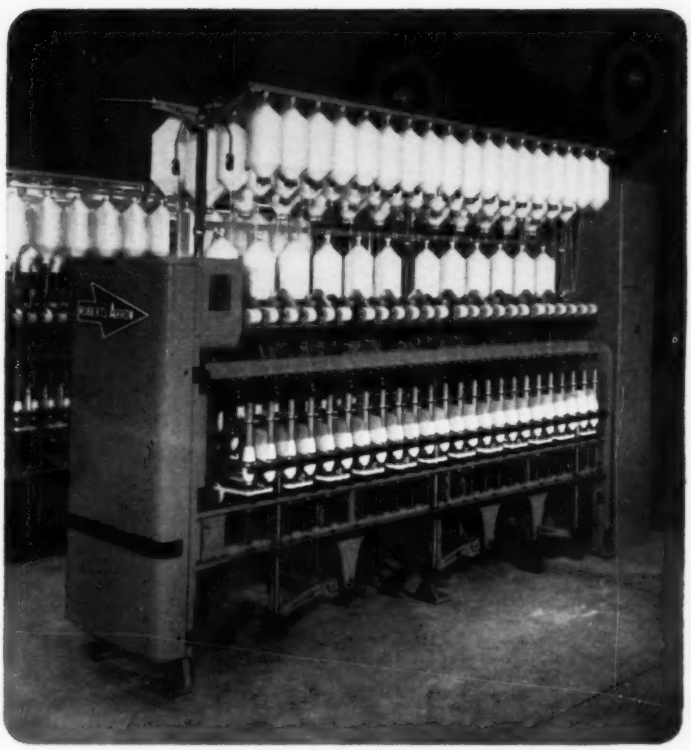
ALSO AVAILABLE AS
CHANGE-OVER MODERNIZATION
ON ANY MAKE OF FRAME



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AeroCreel with Latch-Type Bobbin Holders
Flexibility For Cotton And Synthetics

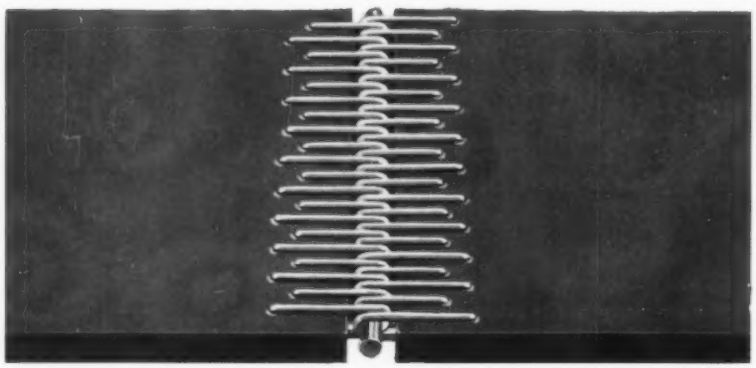
ROBERTS COMPANY
SANFORD, NORTH CAROLINA

For further information use Handy Return Card, Page 173

PULL LOOSE ENDS TOGETHER WITH

CLIPPER

Hooks and Lacers



Time is money . . . and you can save time in joining two loose ends with Clipper Hooks and Lacers. They produce secure, smooth joints in minutes embedding hooks flush with the surfaces of pieces joined. When fastening belts, aprons, or ribbons, they provide a flat, flexible joint that rides freely over conveyor rollers. When joining plastics and other rigid materials they produce a firm "hinge" that is as strong as the material itself. In either case, pieces up to 12 inches wide and 13/32 inches thick are laced in one easy operation. So whenever you have a problem that calls for making two pieces one — check with Clipper.

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Shorts and Remnants

try . . . . is potentially in the strongest position in its history . . . expanded research, new processes, better merchandising, and the ever-increasing standard of living all presage a vigorous and dynamic future. . . "

So here's wishing you the best Christmas from all of us on TI:

Pictured here on a pre-Greenville Show outing are (left to right): Front row—**Walter Mitchell, Jr., Frank Guest, Art Shaw.** Center—**Jim Corgee, John Cook, Dick Smith, George Dockray,** and **Jesse Ellington.** Back row—**Stan Suchecki, Dick Hanrahan, Bill Hoffman, Carroll Smith, Cliff Rutland,** and **Milton May.**

Missing are **Redfern Hollins, Joe Moody, Margaret Dease, Dorothy Eudy, Herman Williams, Jim Robison, Doug Parsons,** and a few more, but we all say,

"MERRY CHRISTMAS"!!

Do You Clean Cotton Before Opening?

"I am interested in an improved approach to cleaning and brushing cotton before opening. It occurred to me that you may have published articles dealing with this subject and such equipment. . . "

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Greenwood Mills
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" . . . We have in use for many years one Leesona Winder Mod. 50 R Serial Number F 40170-73. We love too much this very good machine, because she make very good money for us, and is right to have very much care with she. . . "

Above excerpt from letter from

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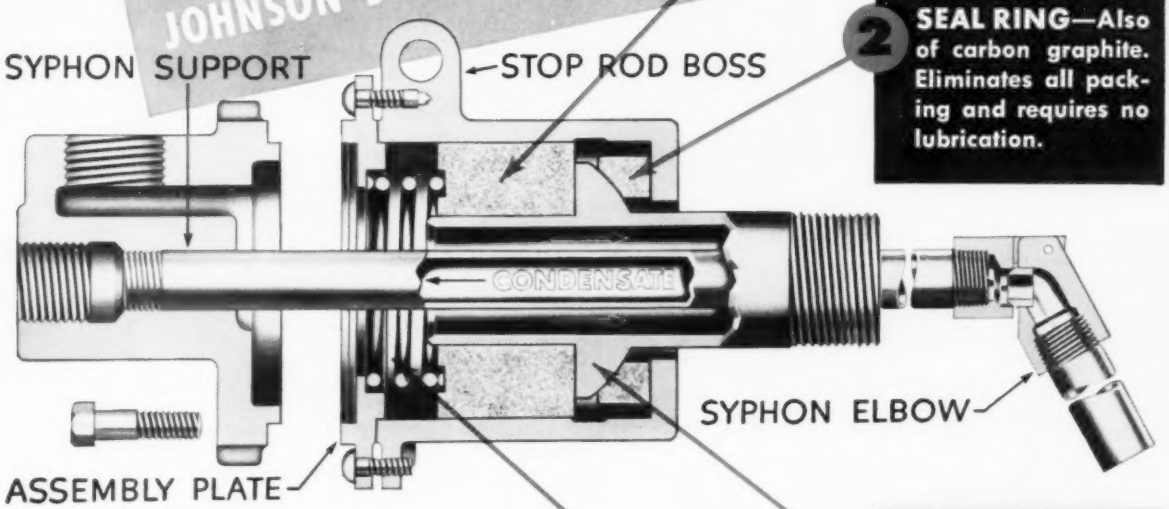
TYPE SB2-P JOHNSON JOINT and JOHNSON SYPHON ELBOW



1 GUIDE—Makes the joint self-supporting. It is of self-lubricating, long-wearing carbon-graphite.

2 SEAL RING—Also of carbon graphite. Eliminates all packing and requires no lubrication.

3 NIPPLE—Rotates with the roll, and seals against the ring.

4 SPRING—Serves for initial seating only. In operation joint is pressure sealed.

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In this Series 3000 Type SB2-P the assembly plate holds the internal parts in position when head is removed. This makes it a perfect teammate for the Johnson Syphon Elbow which can be inserted or withdrawn right through the joint.

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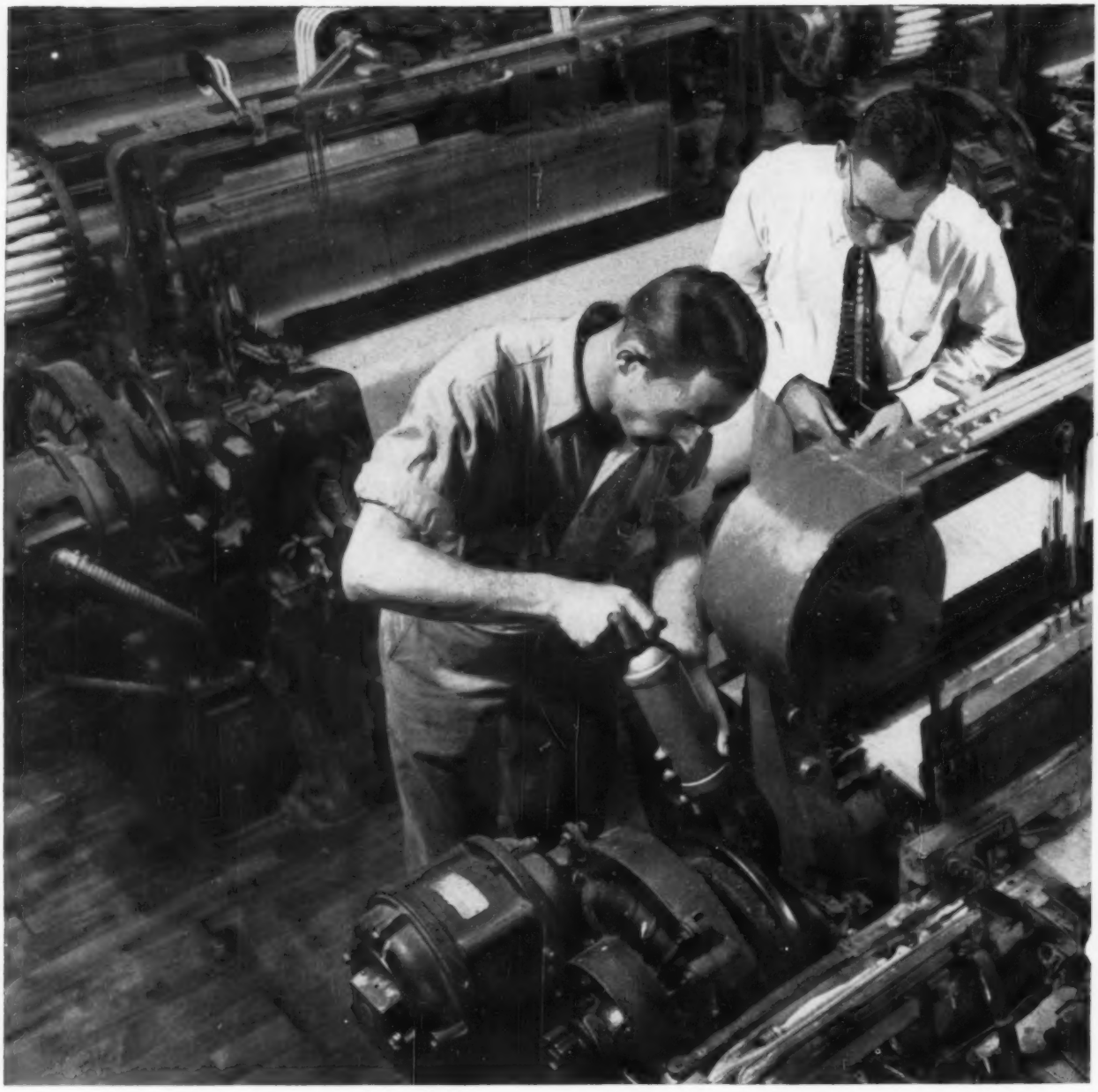
Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters



Now for textile mills—a new product to help insure that

NEW GULFCROWN

Here's a completely new multi-purpose, heavy duty, lithium base grease for extreme pressure applications . . . ideally suited for the lubrication of bearings, cams, pick balls and gears in textile looms.

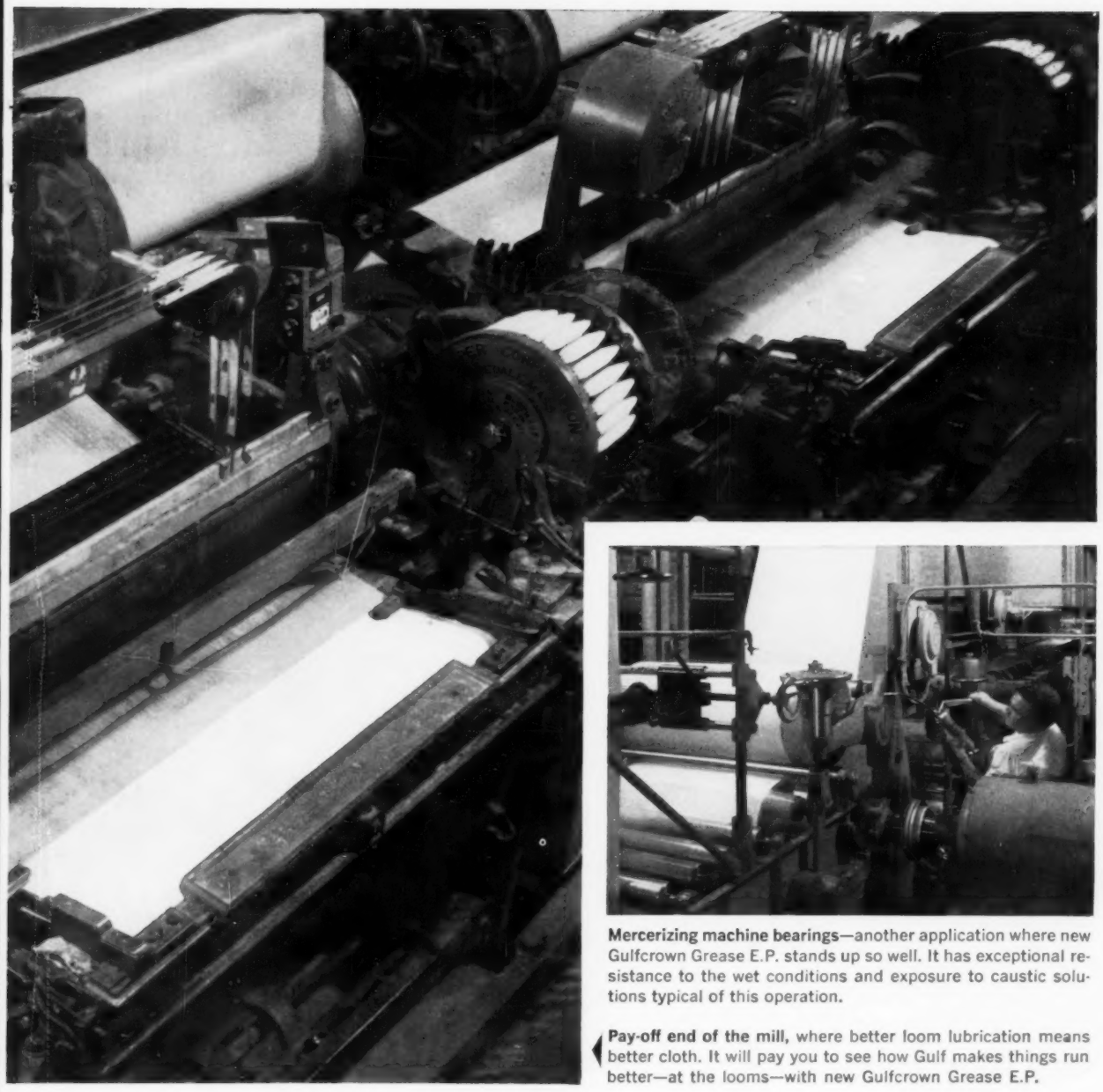
Suited for nearly every type of grease application

Although this new grease is made to withstand high loads, shock loads and oscillating action, it performs excellently in practically any grease application . . . including electric motor bearings, fan and pump bearings.

New Gulfcrown E.P. resists heat, cold, moisture and mechanical breakdown. It has excellent oxidation stability and protects against corrosion. Pumps freely at zero Fahrenheit, yet stands up at temperatures up to 250°F. and higher, under certain conditions.

Lets you use less grease—and lubricate less often

In loom lubrication, new Gulfcrown Grease E.P. No. 2 permits a reduction in the amount of grease used—and



Mercerizing machine bearings—another application where new Gulfcrown Grease E.P. stands up so well. It has exceptional resistance to the wet conditions and exposure to caustic solutions typical of this operation.

Pay-off end of the mill, where better loom lubrication means better cloth. It will pay you to see how Gulf makes things run better—at the looms—with new Gulfcrown Grease E.P.

Gulf makes things run better!

GREASE E.P.

an increase in the period between applications as compared with conventional loom lubricants.

This new grease is now available in three N.L.G.I. consistencies: Nos. 0, 1, and 2. Gulfcrown E.P. No. 2 is the recommended grade for loom lubrication.

Find out how new Gulfcrown E.P. can improve your operation and help you lower maintenance costs. Just call your Gulf Sales Representative at the nearest Gulf office. Meanwhile, mail coupon for booklet.

GULF

GULF OIL CORPORATION
Dept. DM, Gulf Building
Pittsburgh 30, Pa.
Please send free booklet on new Gulfcrown Grease E.P.

Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State_____

Shorts and Remnants

well-pleased South American customer of Universal Winding requesting parts catalog. Courtesy John Freed, Universal Adv. Mgr.

Coating for Caprolan Fabrics

" . . . We would like to inquire how this material (Caprolan) compares with nylon 66 as far as its physical characteristics and adaptability for coating are concerned. We do understand that this particular product is not suitable for vinyl resin coating but it has been coated with neoprene and Hypalon with success. . . "

C. G. MACK
Dir. of Pur.
Hettrick Mfg. Co.
Toledo, Ohio

Wants Non-Binding Men's Hose

" . . . We would like to know how to find out which companies have the Banner machines to make this type men's hose [Non-Binding Top, Sept. p. 154]. We have a retail store in connection with our mill and are considering putting in a line of men's hose. We do know from the inquiries that many of the men like the tops that do not bind the legs. . . "

MRS. D. E. DOSTER
Doster Hosiery Mill
Hollywood, Fla.

Durham, N. C., "Salute to Industry"

Folks in the textile industry at Durham, N. C., played a good part in a recent promotion to get prominent visiting firemen to visit Durham and to see it as a good place to live in as well as work. **Carl Harris,** Erwin Mills, had his picture in a national weekly which featured this promotion. Textile participants in addition to Mr. Harris included **Wm. Ruffin** and **F. E. Grier,** also of Erwin; **John Reeves** of Reeves Bros.; **Robert Milliken** of Mount Hope Finishing Co., **Ed Clare** of Athol Mfg. Co., **H. K. Smith** of Saco-Lowell Shops, **Marshall Cooper** of Harriet Cotton Mills. In the picture below

George A. Cralle, Exec. V.P. Durham Hosiery Mills, explains knitting at this plant to **Donald L. Power** (left), Pres., Gen'l Telephone Corp., and **Frank W. Jones,** Pres. Int'l Harvester Corp.

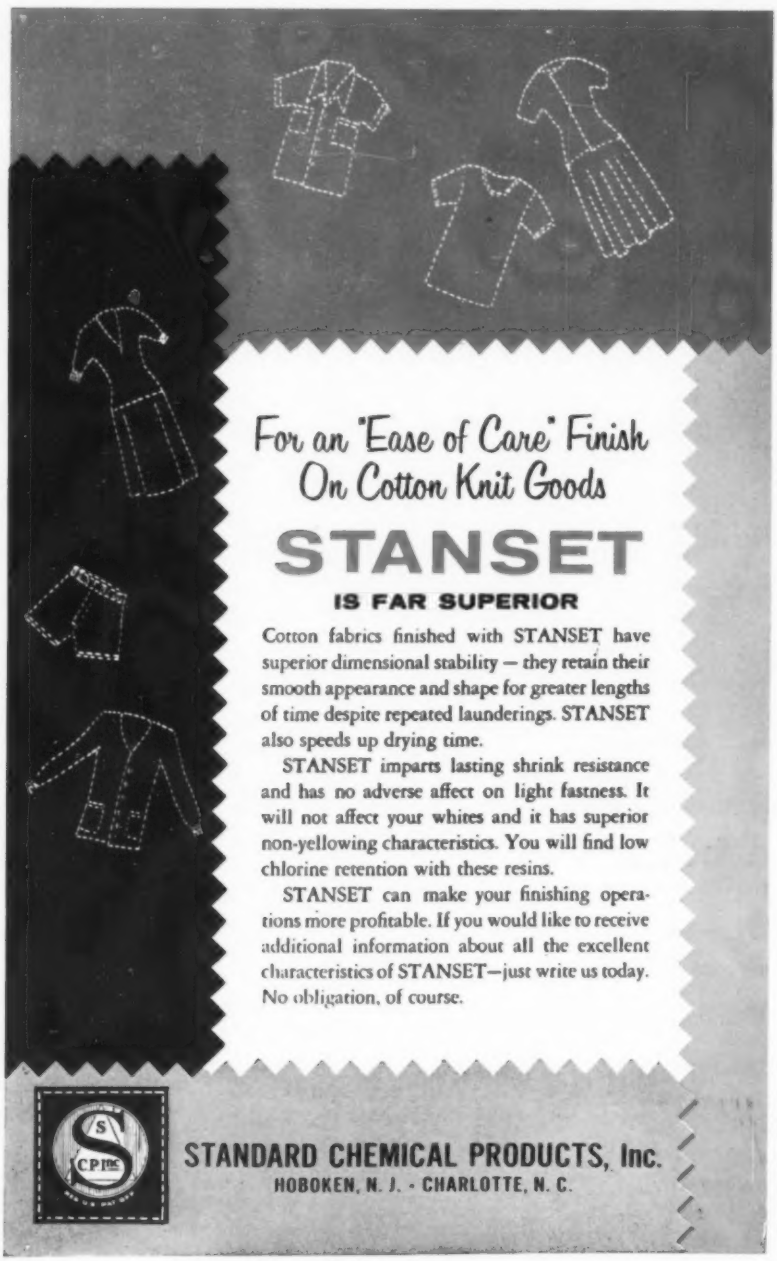
Want to Buy? Write TI!

TI readers have pens—will write. If you don't see what you want in our pages, write to TI. We'll try to find it for you. Typical of the inquiries that come from all over are these:

"We are interested in purchasing a Baby Palmer finishing machine and would appreciate your advising us whom we can contact regarding same."

NATHAN FRIEDLANDER
Pickford Mills, Inc.
Brooklyn, N. Y.

(Continued on page 22)


For an "Ease of Care" Finish
On Cotton Knit Goods
STANSET
IS FAR SUPERIOR
Cotton fabrics finished with STANSET have superior dimensional stability — they retain their smooth appearance and shape for greater lengths of time despite repeated launderings. STANSET also speeds up drying time.
STANSET imparts lasting shrink resistance and has no adverse affect on light fastness. It will not affect your whites and it has superior non-yellowing characteristics. You will find low chlorine retention with these resins.
STANSET can make your finishing operations more profitable. If you would like to receive additional information about all the excellent characteristics of STANSET—just write us today. No obligation, of course.
STANDARD CHEMICAL PRODUCTS, Inc.
HOBOKEN, N. J. · CHARLOTTE, N. C.

2 NEW REEDS

from Stehedco

FOR BETTER QUALITY plus Economy

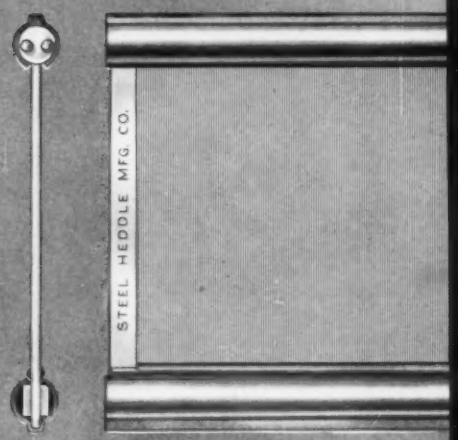
STEHEDCO COMBINATION REED—Get the combined advantages of pitch band and all metal construction in one reed at very low cost. The top pitch band rib gives dent flexibility for easy entering. The bottom all metal construction presents a more rigid and better spaced reed to the cloth at the beat-up position. To provide maximum strength and rigidity the top rib is armored same as the armored reed described below.

STEHEDCO ARMORED REED—This is a super pitch band reed with metal tubes locked in place around the ribs by an exclusive process that assures maximum rigidity. Two of the many advantages found in the Stehedco Armored Reed are the drastic increase in strength with no increase in price over the conventional pitch band reed, and the elimination of lame spots in the reed caused by worn or damaged lay slots or reed caps.

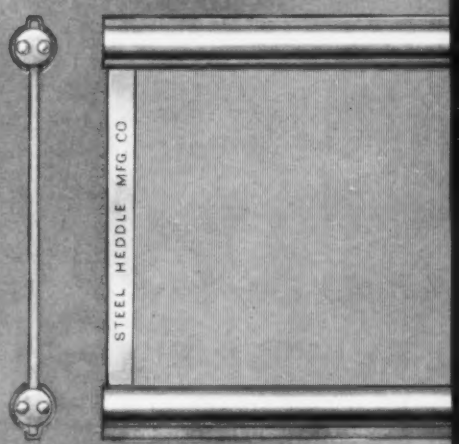
RIGIDENT WIRE—a new dent shape as illustrated in enlarged view. Provides greater strength and rigidity, and also gives more air space at the edges for knot entry and easier beat-up.

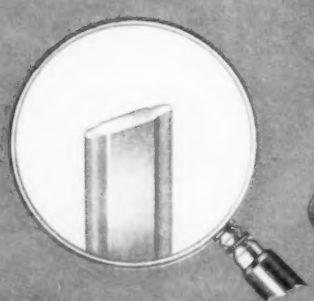
Ask one of our Sales Engineers to show you how you can profit by these new Stehedco developments. See us at the Southern Textile Exposition October 6 to 10.

COMBINATION REED



ARMORED REED





Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

R-5822

Other Plants and Offices: Granby, Quebec, Canada • Lawrence, Mass. • Greensboro, N.C. • Atlanta, Ga. • Textile Supply Co., Dallas, Texas • Albert R. Breen, Chicago, Ill.

BECCO

SILICATE-FREE

BLEACHING

"We dyed ½-million yards this week . . . with no rejects!"

So says a new user of a Becco Silicate-Free Bleaching Process who previously suffered up to 25% rejects.

When complex silicates of calcium and magnesium formed scale on equipment and left resistant residues in the cloth, Becco's recommendation for Silicate-Free Hydrogen Peroxide bleaching solutions eliminated dye house troubles.

This doesn't mean that Silicate-Free Bleaching is the answer to every textile problem, but if you're having any trouble due to silicate scale and insoluble residues, Becco Silicate-Free procedures* — freely available to the textile industry — will help you.

Fact is, Becco can help you with many textile problems. Just give us a call at . . .

ATLANTA	WX-2000	**LOS ANGELES**	Raymond 3-4086
FRAMINGHAM, MASS.	Trinity 5-6141	**NEW YORK**	Murray Hill 3-8227
BUFFALO	Bedford 8300	**PHILADELPHIA**	Howard 5-6280
CHARLOTTE	Franklin 6-8581	**SAN FRANCISCO**	Sutter 1-3461
CHICAGO	Avenue 2-1197	**VANCOUVER**	Portland, Oregon; Butler 9-5595

*U.S. Patents 2,740,689 and 2,820,690

Progress in Peroxygens ®BECCO

BECCO CHEMICAL DIVISION • Food Machinery and Chemical Corporation
Station B, Buffalo 7, New York

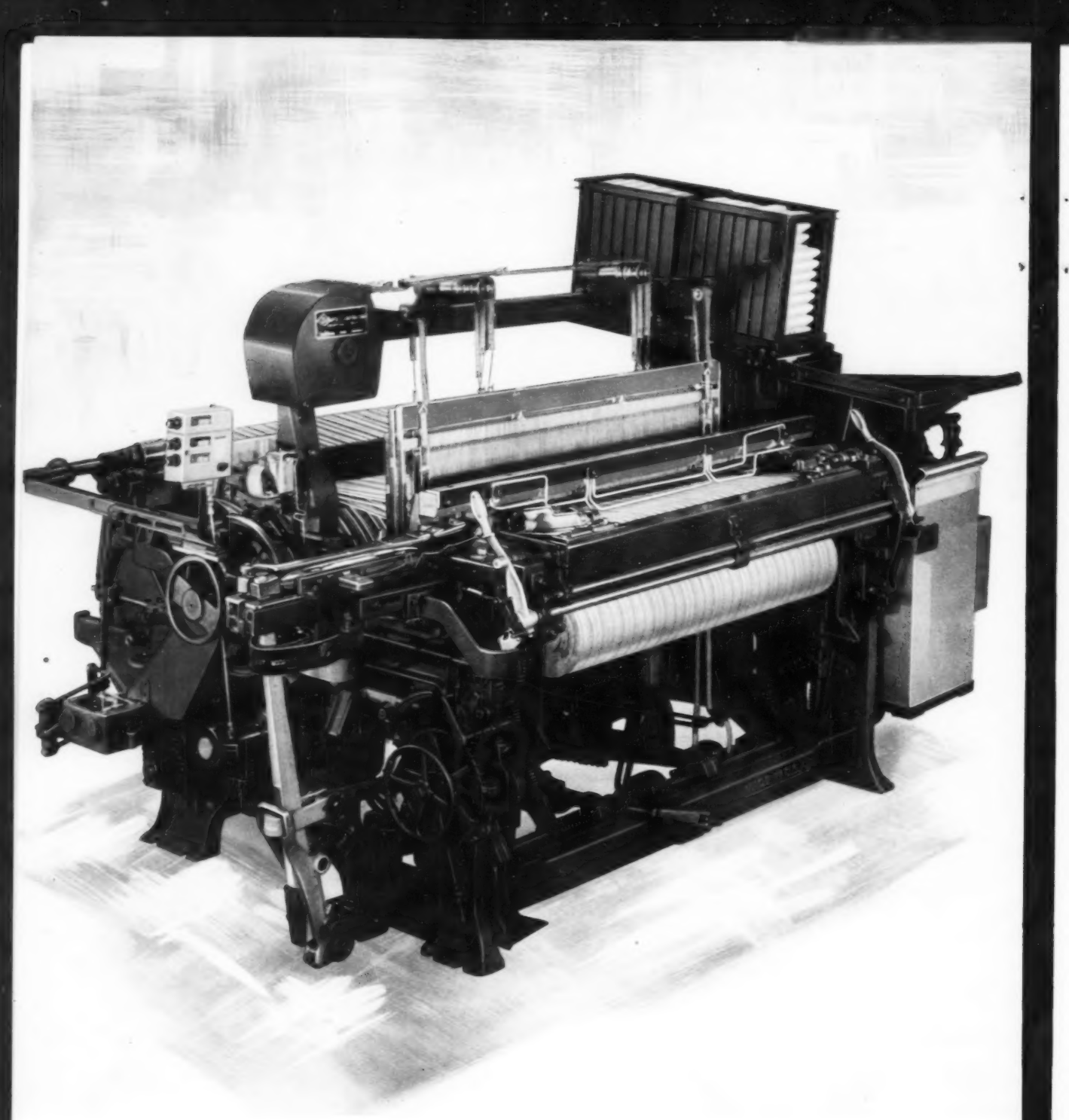
fmc FOOD MACHINERY AND CHEMICAL CORPORATION

FMC CHEMICALS INCLUDE: **BECCO** Peroxygen Chemicals • **WESTVACO** Phosphates, Barium and Magnesium Chemicals • **WESTVACO** Alkalis, Chlorinated Chemicals and Carbon Bisulfide • **NIAGARA** Insecticides, Fungicides and Industrial Sulphur • **OHIO-APEX** Plasticizers and Chemicals • **FAIRFIELD** Pesticide Compounds and Organic Chemicals

Dependability is built into Draper looms... *part by part.* Regardless of size, shape or location, each part is engineered and manufactured to precise tolerances. As a result, Draper has become the accepted name for quality and dependability throughout the textile industry.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N.C. • SPARTANBURG, S.C.



Acceptance...proof of product quality. The Draper high speed automatic X-2 model loom, currently operating in mills throughout the world, is an example of modern engineering and manufacturing techniques. By adhering to precise quality standards, Draper looms will continue to set the pace for weave room efficiency and economy.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N.C. • SPARTANBURG, S.C.

Our Latest High Speed Winder of 6" Traverse offers yarn speeds up to:

1600 yards/min. to wind hard packages
1000 yards/min. to wind dye packages

because of New Bi-Drum System

Should you have missed this fine machine during the Greenville exhibition, please come and see it in our

Permanent Show Room
3440, Augusta Road
Greenville, S. C.

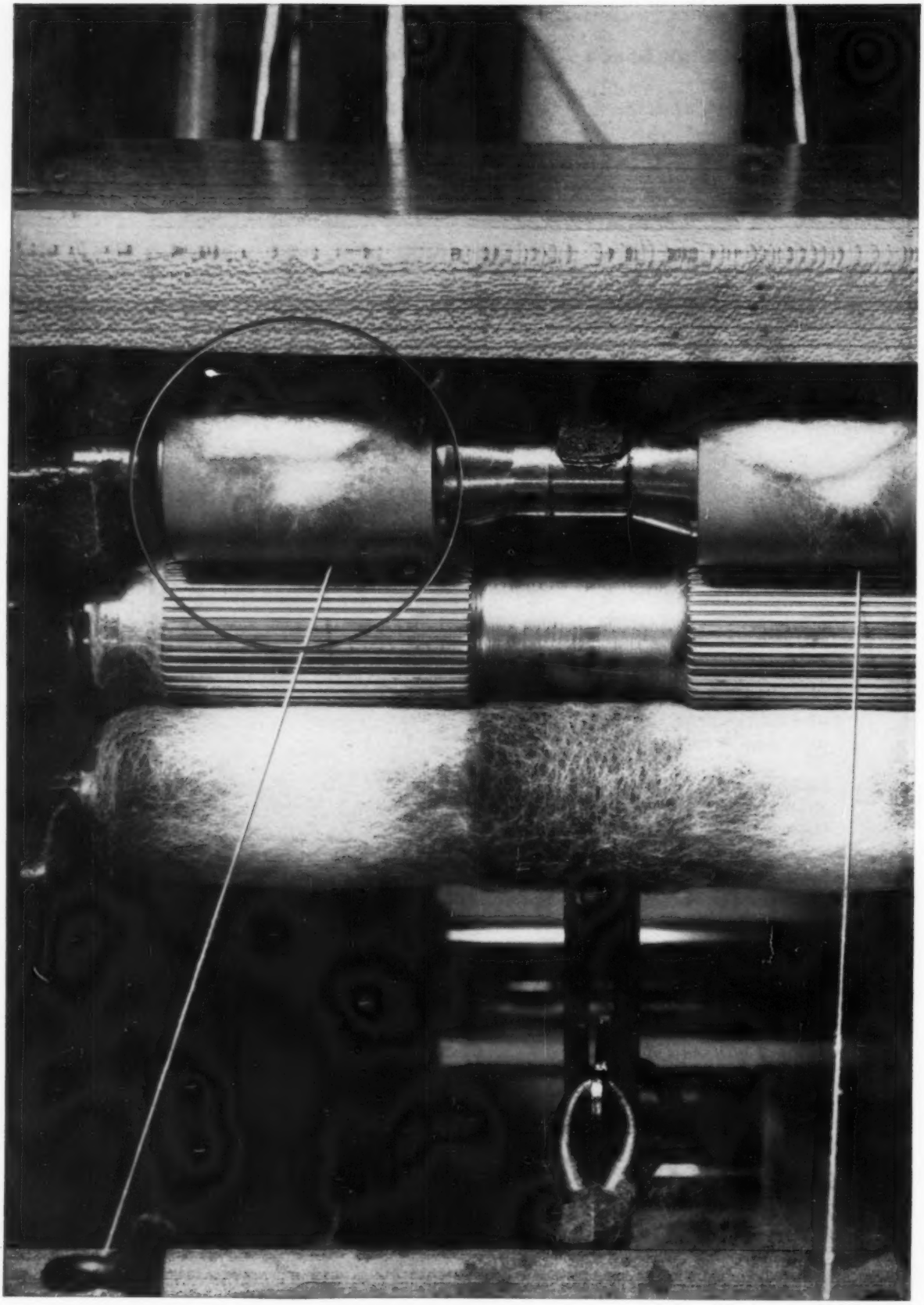
You are kindly invited to have tests made with your yarn on this machine to prove its outstanding features:

- **No ribbon wind on cones**
- **Less yarn friction**
- **No waste of yarn in the Bi-Drum**
- **No fluff and dust in the Bi-Drum**

Agents:
Parrott & Ballentine
Textile Equipment Co.
3440, Augusta Road
Greenville, S. C.
Tel.
Parrott & Ballentine
Cedar 2-8691
Franz Müller Co.
Cedar 2-9930
Cables: Parbal

FRANZ MÜLLER

MASCHINENFABRIK M. Gladbach (Western Germany)



eliminate eyebrowing

Accotex anti-static cots help prevent serious eyebrowing and reduce waste formation.

When you see eyebrows forming on your flat clearers, you can usually put most of the blame on the spinning roll. Hundreds of mills have virtually eliminated this problem by equipping their frames with NC-762 Accotex Cots.

NC-762 is one of the new anti-static roll covers developed by Armstrong textile research. This new cot has an exclusive "constant-friction" surface that has just the right amount of bite needed to pick up loose fibers — and pack them well back under the clearers. In addition, many mills report substantial reductions in the total amount of waste formed where NC-762 Accotex Cots are used.

As a result of this superior performance, NC-762 Cots provide maximum eyebrow resistance. They'll help you maintain high production of top-quality yarn by keeping to a minimum yarn irregularities caused by eyebrowing.

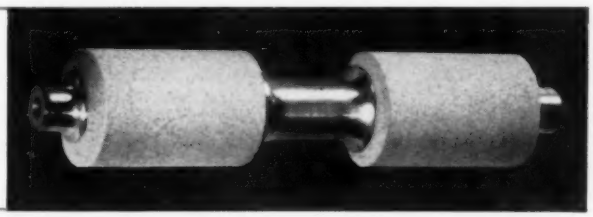
Like all Armstrong roll covers, NC-762 Accotex Cots are compounded to give long service life as well as excellent spinning performance. With just an occasional re-buffing (as seldom as once a year), these covers will turn out clean, uniform yarn shift after shift, for years.

In the card room, Armstrong NC-762 Accotex Covers give the drafting qualities and eyebrow resistance needed for drawing and roving frames equipped with flat clearers.

Whatever type of equipment you have in your mill, and no matter what fiber or blend you're spinning, there's an Accotex Roll Cover to meet your requirements. Your Armstrong representative will be glad to work with you in selecting the roll cover best suited to your work.

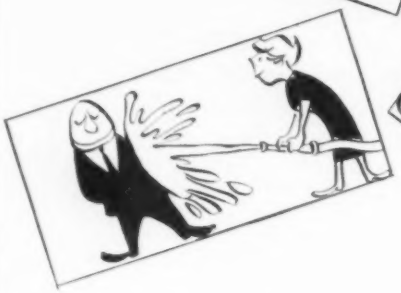
For more information on the complete Armstrong line of supplies for textile mills, write to Armstrong Cork Co., Industrial Division, 6512 Ivy Street, Lancaster, Penna.

For maximum eyebrow resistance on spinning frames, you can depend on Armstrong NC-762 Accotex Cots. Ask your Armstrong man to arrange a test installation in your mill. Prove on your own frames how these cots perform.



Armstrong ACCOTEX COTS

. . . used wherever performance counts



EACH MONTH IN TEXTILE INDUSTRIES

SEARCHING CARTOON COMMENTARY ON THE STATE OF AFFAIRS IN TEXTILES BY "ERIC", FAMOUS NEWSPAPER CARTOONIST.

A PLUS FEATURE OF

TEXTILE INDUSTRIES

806 PEACHTREE ST., ATLANTA 8, GA.

Shorts and Remnants

(Continued from page 14)

"As subscribers to your periodical for many years, we take the opportunity to seek your advice as to locating a Collender or Collander Machine Company. . . "

A. GLECKEL
Alfred Covered Wire Co., Inc.
New York, N. Y.

"After reading the article entitled, 'Operation Centerline' [June '58] . . . I decided that I would like to get in touch with the Intercontinental Dynamics Corporation. . . "

HERBERT P. SONTAG
Ch. Engr.
The Firth Carpet Co.
Auburn, N. Y.

"Could you supply us with the complete address of the J. O. Ross Engineering Division, Midland-Ross Corp. We are interested in an article entitled, 'Nonwoven Fabrics in One Step' [Oct. '58] . . . "

ROGER B. OLIVER
Supt.
Albany Felt Co.
North Monmouth, Maine

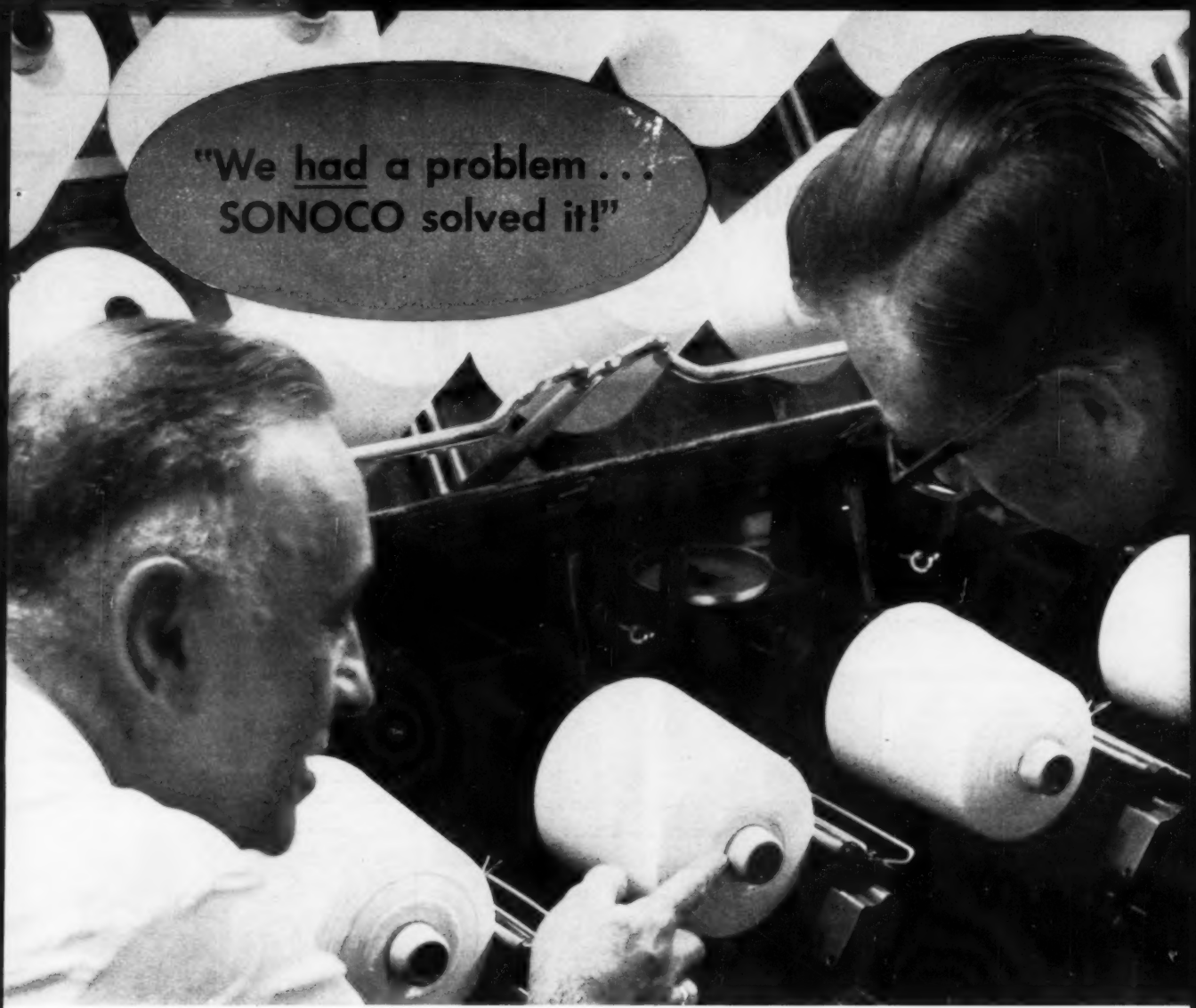
"We have been trying to obtain a catalog on the Turbaire [Nov. '57] . . . "

ING. ENRIQUE MEYER OROZCO
Textiles Monterrey, S.A.
Monterrey, N.L., Mexico

F. J. Giorgi, S. J. Brisbin Co., Inc., N. Y., also writes that they have a client in Colombia, who wants data on Turbaire . . . **George F. Melville,** Mellville & Co., Bronx 54, N. Y., sends letterhead with request for Moyno pump literature from Robbins & Myers Co. ad.

We can take care of all of these except we don't know Collender Machine. Anybody who knows this one, let us have it or write Mr. Gleckel at 512 Broadway, N. Y.

Lakeside Products Co., Cleveland, O., goes back to Mar. '57 to pick out a Universal Winding device for creeling spools from horizontal position mentioned in article on running metallic yarns; Cia Nacional De Tecidos "Nova America" want more on Pneumafil Lint-Free creels; **R. L. King,** Tech. Supt. Riverside Mills, Augusta, Ga., writes for data on Pako Hydromixer from Mid-Nov. '57; **George Graham,** Chem. Personal Products Corp., Milltown, N. J., wants Rando-Webber data from



THE NEED: New-type, lightweight shrinking cone for nylon.

The customer problem was three-fold: (1) the need for a 3°30′ cone that would provide uniform shrinking of nylon yarn, (2) eliminate staining of yarn in the process, (3) and, the elimination of yarn slippage in primary winding upon delivery.

Sonoco engineers solved this problem by first developing an especially constructed, lightweight 3°30′ cone that provided even, controlled shrinkage. Yarn staining was eliminated by the use of special Sonoco-manufactured white paper that was used as the stock for this cone. Finally, Velvet bands were applied at the cone point and base to prevent wasteful yarn slippage. The result: customer satisfied.

Only Sonoco, with its modern laboratory, engineering and production facilities, could solve this problem economically and efficiently. It is typical of countless cases where Sonoco leadership in the progressive development of textile paper carriers, based on 60 years of experience, has benefited the industry. Let Sonoco help you!

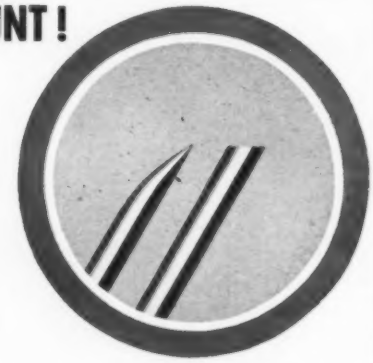
SONOCO
Products for Textiles
SONOCO PRODUCTS COMPANY

Main Office—Hartsville, S. C. • Mystic, Conn. • Akron, Ind. • Lowell, Mass. • Phillipsburg, N. J. • Longview, Texas • Philadelphia, Pa. • La Puente, Cal. • Atlanta, Ga. • Granby, Quebec • Brantford, Ontario • Mexico, D. F.

1985

Booth
Originators of SUPR-O-TAPE • SUPR-O-BAND • STRIP-O-MATIC • MICR-O-GRIND
MANUFACTURERS OF QUALITY CARD CLOTHING SINCE 1892

REDUCE YOUR NEP COUNT!
WITH
MICR-O-GRIND*
CARD CLOTHING
*Pat. Pending

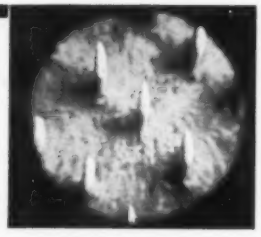


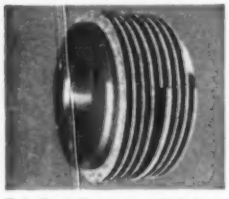
MILL TESTS SHOW:

Nep count reduced 40%
Blending improved substantially
Yarn strength up 10%
Grinding 80% less frequent
Grinding time less than 30 minutes (normal 6-8 hours)
Stripping 65% less frequent

Booth card clothing may now be obtained with a **new and exclusive** extra sharp needle point. With your first purchase of this new clothing, the MICR-O-GRIND head is available for rent so that you can regrind it yourself.

Note needle point from MICR-O-GRIND (left) compared with conventional flat point (right). Extra sharp MICR-O-GRIND points card out the neps and reduce the nep count as much as 40% on cotton. Sharper points also allow stock to release itself—hence less loading—and also give greatly improved carding action. Stripping of cotton cards only once a shift—on woolen cards as little as once a month.





Grinding discs are spiraled to take off the heel of each tooth. MICR-O-GRIND head fits your conventional grinding shaft.

HOW IT WORKS

MICR-O-GRIND card clothing is ground with spiral abrasive discs that take the heel off the wire. Accuracy of initial grind is assured by exclusive Booth electronic monitor controls. This leaves a needle-like point, long recognized as ideal for card clothing. *Never before has this ideal been attained.* Conventional grinding invariably leaves a flat point because no way was known to grind the teeth to a perfect point.

IMPROVED QUALITY

The needle point of the teeth holds the fibres long enough to be thoroughly carded and yet does not tear the fibres. This provides a more gentle combing action for increased yarn strength, better blending and reduces neps by as much as 40% in cotton carding.

Needle point is smooth enough to release the stock easily, yet the fine serrations (as seen under a microscope) will not let the fibres escape without being carded. This also means that there is less beating action at the doffer comb as the web flows more readily off the card.

REDUCED COSTS

through reduced Down Time for grinding and stripping. MICR-O-GRIND clothing is very inexpensive—only 5% more. The MICR-O-GRIND needle point can be applied to any type of card clothing—the only difference is the point. In a cotton mill, you can get your standard 100's, 110's, etc., in either CCWC, CWC or rubberfaced foundation—also any woolen clothing.

BENJAMIN BOOTH COMPANY

ALLEGHENY & JANNEY STS., PHILA. 34, PA.
SALES OFFICES: *West Point, Ga. • Charlotte, N. C. • Lowell, Mass.*

Booth

Shorts and Remnants

Curlator (Sept. ad); **John C. King,** F. W. Poe Mfg. Co., Greenville, S. C., wants more on Shadograph scales from Exact Weight Sept. ad. You can't put it into too small type for **C. J. Naslet,** Beacon Ribbon Mills, Ltd., Valleyfield, Que., Can., who writes for Amer. Cyanamid table on stability properties and effect of ammonium thiocyanate on shade and strength for direct dyes (Sept. '58).

► A news item in an Atlanta paper announces plans for expansion of Statesboro (Ga.) Buggy & Wagon Co. So those horseless carriages were just a passing fad.

► And a sign on the back of a little foreign car says "Don't hit me, I squash bugs."

► Now if the gals really want to get that sack look, Bemis Bros. Bag Co. has the answer in their Designer Prints in the 100-lb cotton feed bag line. Samples below are sacks from sacks, for sure.

► A textile magazine from Bucharest, Romania, gets to us, even though it is addressed to "Peachtree, Ga." So you see, TI must be well known. So you all write and Keep Georgia Green. Keep sending the money.

► So this Christmas "give textiles," and if you just happen to want to know what ole S&R wants for Christmas, he could use some good jokes and bathing suit pictures for this here column, some textile prosperity to rub off on TI (and S&R), some more readers, and "On Earth, Peace and Good Will to Men."

THE ALDRICH HIGH COMPRESSION PICKER CALENDER

The rolls are made of polished Meehanite—harder and stronger than ordinary cast iron. They are mounted on roller bearings. Pressures up to 12,000 pounds—or more—are applied with pneumatic diaphragm cylinders without pistons or stuffing boxes. Pressure is immediately adjustable by merely setting a reducing valve in the air line.

Each time the calender stops for doffing, the pressure on the vertical rolls is released. This is very important on some synthetics which tend to fuse under continued pressure.

You can test the lap as you make it. The use of cushioned pressure on the calender rolls allows these rolls to freely rise and fall to follow the contour of the lap. The Lap Weight Indicator shows these variations in the lap as it is being made. Any excessive variation can be reported at once, instead of many hours later. The Lap Weight Indicator also shows if one side of the lap is heavier than the other.

Pressure is applied to the calender racks by pneumatic cylinders mounted above them. The racks are connected by the usual cross shaft to keep them exactly in line. The heads rise automatically when the calender stops for doffing.

Few gears are used, and most of the drives are through roller chains with automatic take-up and automatic oiling.

AldricH MachinE WorkS
Greenwood, South Carolina

What's new and what's news IN TEXTILE CHEMICALS

Contrary as it may seem, news is not always about the new. In the field of textile chemistry, the excitement may concern an *old* friend which has suddenly taken on new importance. That's why these news notes will bring you facts about new *developments* in established chemicals, just as often as they will tell you about new chemicals. This month, three old standbys in a new light . . .

You may wish to check certain items in this advertisement and forward to those concerned in your own company.

ROUTE TO:

_____

_____

_____

_____

CHELATING AGENTS: VOLUME UP, PRICE DOWN

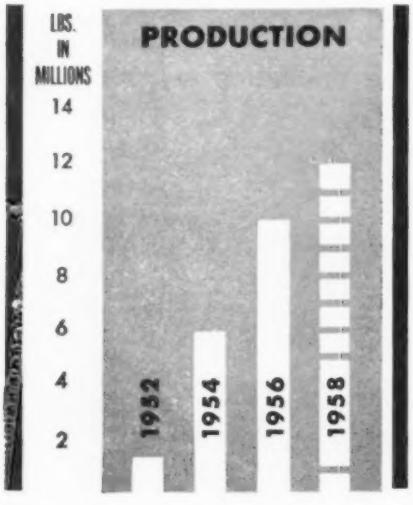
Troublesome metallic ions are now being inactivated in many textile formulas at reasonable cost. Volume production of Dow chelating agents leads to new economy considerations and now brings this benefit to every textile operator.

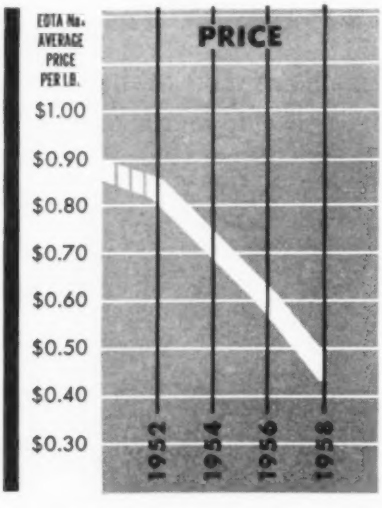
Textile people have long known, of course, that chelation was the most effective way of taking care of metal ions that often have caused streaking and staining or even weakening of fibers. The problem, until recently, was one of economy.

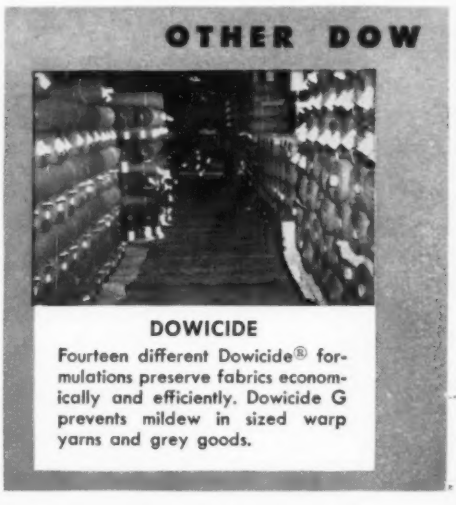
The Dow chelates—Versene®, Versenol® and Versenex*—have countless applications in the textile industry. If metal ions are a problem in dyeing, scouring, stripping and desizing operations, the answer is Versene 100 in solution form or Versene Flake or Powder (EDTA Na_4).

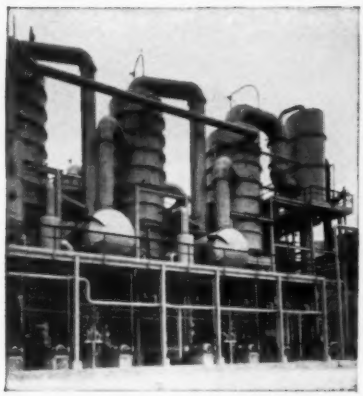
If ions of iron or other heavy metals are complicating peroxide bleaching operations, they can be inactivated by Versenex 80 in solution form (DTPA Na_5). Similarly, Versene 100 or Versenex 80 plus triethanolamine is the remedy for calcium, magnesium and iron in the kier boiling operation.

If you use water, you may need chelates. Wherever a manufacturing or processing operation uses water in any form, the problem of metallic ions is likely to exist. The surest, safest way to fight that problem is with chelation. And, thanks to the work of research men within the textile industry itself, new uses for the chelates are regularly being discovered. Dow representatives are working closely with them and are offering helpful suggestions in many areas of application research.






OTHER DOW
DOWICIDE
Fourteen different Dowicide® formulations preserve fabrics economically and efficiently. Dowicide G prevents mildew in sized warp yarns and grey goods.



SIX KINDS OF CAUSTIC
From 12 Distribution Points

From 4 different producing plants and 12 additional terminal points, Dow distributes caustic soda whenever and wherever it's needed.

Dow caustic is available in solution, solid and flake form. Moderate to large users find *50% solution* requires minimum handling, has low price. A *73% solution* must be diluted and cooled before storing but is much easier to handle than dry caustic. Very economical for large users.

Solid caustic is the least expensive of the dry forms but requires more handling—ideal for smaller users distant from production points. *Regular flake* is best for those buying 400 lbs. or less at a time. Many alkali users find *¼" flake* suits them best. Dustless, free-flowing *ground flake* compounds easily with other materials and many formulators prefer it.

★ ★ ★ ★

For additional facts on Textile Chemicals write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Chemicals Sales Department 775T-1.

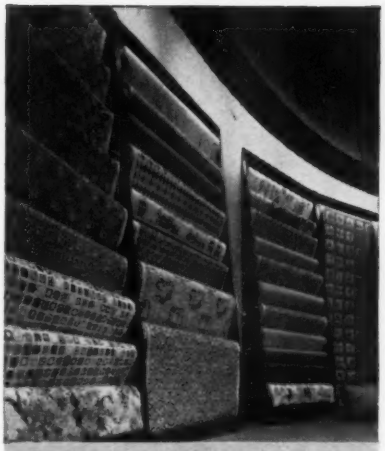
Remarkable dye solvent cures indigo blues

Manufacturers concerned with textile dye solvent problems, especially where indigo-type dyes are involved, are finding that Dowanol® DE-SG provides an extremely apt solution in a great many cases.

Dowanol DE-SG is a modified version of Dowanol DE (diethylene glycol ethyl ether). Used as a solvent with pastes containing alkyds, it controls evaporation and aids penetration and leveling.

A small quantity of Dowanol DE-SG greatly increases the solubility of the dye and manufacturers, particularly those who use indigo-type dyes, will also be pleased by the brighter colors and reduced crocking obtained.

In another application, Dowanol DE-SG, used with triethanolamine, produces in denims a color shade approximately 15 per cent deeper than can be achieved through the usual dyeing methods. A typical textile dyeing formulation would include 10 ounces of indigo powder, 27 ounces of Dowanol DE-SG, 14 ounces of triethanolamine and 100 gallons of sulfite liquor.



Brighter, deeper colors made possible with versatile glycol ether solvent, Dowanol DE-SG.

Dow's new 52-page Dowanol booklet will give you complete information on uses, analytical methods, toxicological and handling data on Dowanol compounds (the industry's widest line of glycol ether solvents). The booklet is available now. Please request it on your letterhead.

®TRADEMARK OF THE DOW CHEMICAL COMPANY

DOW CHEMICALS

BASIC TO THE TEXTILE INDUSTRY

Glycol Ethers • Alkalies • Thickeners • Industrial Glycols

Glycerine • Chelating Agents • Ion Exchange Resins • Preservatives

Solvents • Polyols

YOU CAN DEPEND ON DOW

CHEMICALS OF TEXTILE INTEREST

GLYCOLS

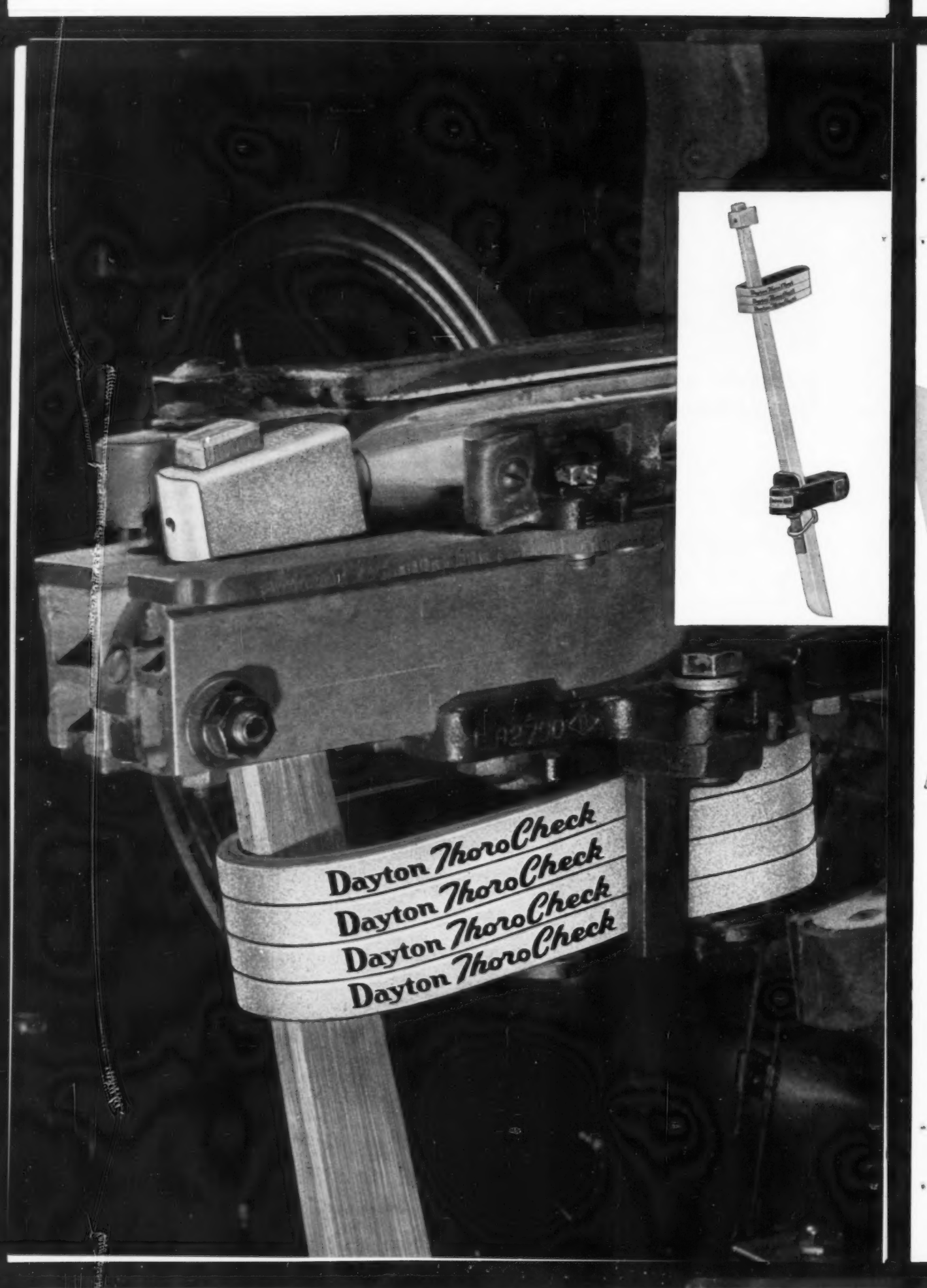
Outstanding as fiber lubricants, keeping fibers from snagging or drying out during spinning and weaving, are three industrial glycols: monoethylene, diethylene and triethylene glycol.

CHLOROTHENE

Used for spray, bucket, dip or wipe cleaning, Chlorothene® (Dow 1, 1, 1-trichloroethane, inhibited) is the safer industrial solvent for cleaning machinery, tools and small parts.

SODA ASH

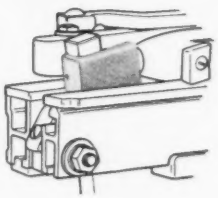
Dow can offer important savings on mixed shipments of soda ash and caustic soda. Write to Dow for free book on properties, uses, handling and storage of soda ash.


Dayton ThoroCheck
Dayton ThoroCheck
Dayton ThoroCheck
Dayton ThoroCheck

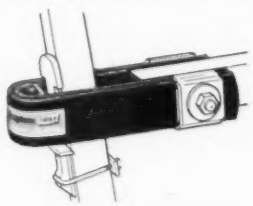
Protect Your Looms

From Shock and Wear with the Dayco Combination

WHY TAKE CHANCES with your looms when you can protect the picking assembly at every point of shock and wear with Dayton Thorobred Loop Pickers, Thoro-Check Straps and Deluxe Lug Straps? Designed to work together as smooth running combination, they absorb the shock of high speed shuttles, smoothly check the picker stick, and accurately deliver the shuttle return. Lasting 2 or 3 times longer than similar products, the Dayco Picking Combination reduces both the cost of replacing parts and the downtime it takes to make repair.

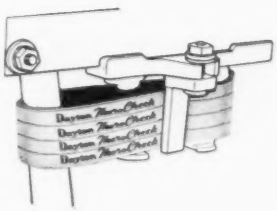


DAYTON THOROBRED LOOP PICKERS are scientifically designed to avoid wear. Examine them point for point . . . the tilt of the picker face is just right for perfect, strain-free shuttle contact . . . the tapered picker stick hole and tapered bottom insure accurate seating and protect against tearing the loop ply . . . and the smooth, round corners prevent jerked-in fillings. It all adds up to millions more wear-free contacts.



DAYTON THROBRED DELUXE LUG STRAPS are molded together around a built-in plug that absorbs the terrific shock generated during picker stick thrusts. This one-piece, link-free construction means longer service and greater protection for the stick and loom.

DAYTON ENDLESS THORO-CHECK STRAPS have a superior checking action and a stronger multi-ply construction that add 6-8 months more of trouble-free service. Because of their smooth, graduated checking action, Dayton ThoroCheck Straps never drag over the stick, never interfere with the shuttle throw.



Check the results yourself by refitting some of your looms with the complete Dayton combination and comparing its long life, freedom from downtime, and smoother picking action. Just ask your Dayco representative next time he calls or write The Dayton Rubber Company, Textile Div., 401 S. C. National Bank Building, Greenville, S. C.

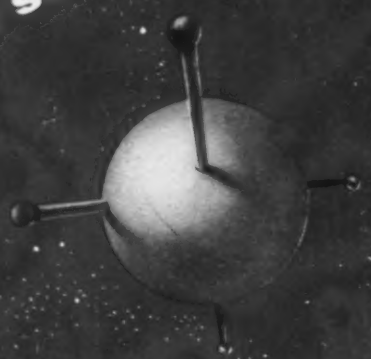
Dayton Rubber

Dayco And Thorobred Textile Products For Better Spinning and Weaving

© D. R. 1958

OVERSEAS PLANT: THE DAYTON RUBBER CO., LTD., DUNDEE, SCOTLAND

NEW SOFTENERS FOR THE NEW AGE IN TEXTILES



To meet the higher standards being demanded by the consumer... try

SOFTYNE SPECIAL

A nonionic softener giving a smooth, full hand and having high scorch-resistance. Imparts excellent lubricating, anti-static and sewability characteristics. Applicable to all natural and synthetic fibers. Applied in short bath to yarns, threads, piece goods and knitted goods.

HARTEX SOFTENER DW

A 100%-active liquid cationic softener combining high softening power with high resistance to yellowing and minimum effect on shades. Applicable by exhaustion to all natural and synthetic fibers.

For samples and literature, write to

the Hart Products Corporation

1440 BROADWAY, NEW YORK 18, N. Y.

Works and Laboratories, Jersey City, N. J.

Hart Products Company of Canada, Ltd., Guelph, Ontario

Personal NOTES

ABOUT MEN YOU KNOW

The Textured Yarn Co., Inc., Philadelphia, Pa., has appointed **Scott F. Alexander** director of marketing for the home furnishings industry. He will be in charge of the development and distribution of Tycora yarns for the floor covering, upholstery, and drapery fields.

Robert L. Neilds has resigned his position with the Gilbertville (Mass.) Mills, Inc., to accept an executive vice-presidency with Omega Aircraft Co.

Ray L. Wittstein has accepted a position as assistant to the executive vice-president of Artex Woven Label Co., Mountain View, N. J. He is in charge of management and operational functions.

Ely R. Callaway, Jr., has been chosen president of Pacific Mills Worsted Corp., the newly-formed sales division of Pacific Mills. Mr. Callaway also serves as executive vice-president of Pacific Mills, a member firm of Burlington Industries, Inc. * * * **Louie Burkes** is the new superintendent of Calhoun Mills, Calhoun Falls, S. C., a member of the Burlington organization.

Gaston Gage has been named dean of the Clemson College School of Textiles in Clemson, S. C. He has been acting dean since November, 1957.

Thomas O. Boucher has been named president of Chicopee Manufacturing Corp. and its sales company Chicopee Mills, Inc. He succeeds **W. J. Holman, Jr.,** who becomes board chairman.

A series of promotions of executive and production personnel has been announced by Excelsior Mills, Inc., Union, S. C. **Marshall C. Stone, Jr.,** is the new merchandising manager. Succeeding him as grey mill superintendent is **William B. Schoenthaler.** His former position as superintendent of Mill No. 3, Rutherfordton, N. C., has been taken by **William G. Ballard.** Replacing Mr. Ballard, **William E. Greene** becomes overseer of picking, carding, and spinning at the Union plant. **Kermit**

THE FLEXIBILITY OF A LAB DRYER
THE DEPENDABILITY OF A PRODUCTION DRYER

SARGENT'S
NEW PILOT PLANT
DRYER

FOR:
ASBESTOS
COTTON
GLASS FIBRES
RAW FIBRE
SILK
SLIVER
STAPLE
SYNTHETICS
TOP
TOW
WOOL
WORSTED
YARN
(Skein or Hank)

Each drying section, or any arrangement of groups of sections, can be zoned and controlled independently to provide widest possible variation of temperature, humidity, etc., where needed. Production technique and settings are determined accurately, transferred to the production dryers without need for adjustment. Additional sections are added easily and quickly at your plant. They are delivered as a complete unit with motor, fan, heating coils and conveyor in place. Compact, made in two sizes, the smaller being only 4'-0" high and 3'-9" wide. Uses gas, electricity or steam for heating element. Simple adjustment to regulate conveyor speed. Fully instrumented, has all necessary controls and recording charts. It's a little giant of versatility — invaluable in the modern, cost-conscious pilot plant. Let us give you details.

FOR BETTER FIBRE PROCESSING

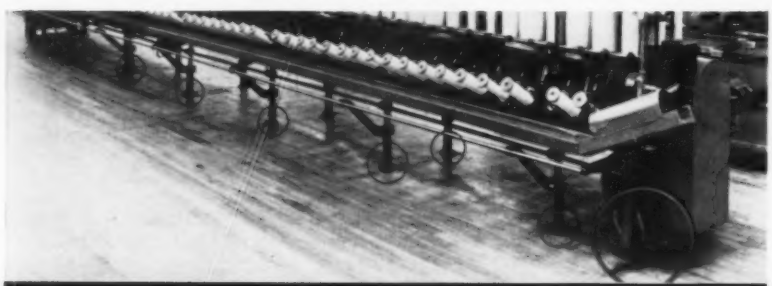
Sargent Dryers for Lab, Pilot Plant, Production (Conveyor, Tray, Pole) . . . easiest, speediest to install . . . less time than any other dryer on the market. Also Sargent's Automatic Feeds, Weighing Feeds, Blending Feeds . . . Openers . . . Pickers . . . Dusters . . . Backwashers and Dryers . . . Scouring Trains, Bleaching, Acidifying Trains . . . Conveying Systems . . . Special Fibre Processing Equipment.

C. G. SARGENT'S SONS CORPORATION
Graniteville, SINCE 1852 Massachusetts

PHILADELPHIA 19 — F. E. Wasson, 519 Murdock Road
CINCINNATI 15 — A. L. Merrifield, 730 Brooks Avenue
CHICAGO 44 — John Law & Co., 5850 West Lake St.
DETROIT 27 — Clifford Armstrong Co., 16187 Grand River Ave.
HOUSTON 17, TEX. — The Alpha Engineering Co., Box 12371
CHARLOTTE, N.C. — W. S. Anderson, Carolina Specialty Co.
ATLANTA, GA. — J. R. Angel, Mortgage Guarantee Building
TORONTO 1, CAN. — Hugh Williams & Co., 27 Wellington St. East

NEWS ABOUT TEXTILE MACHINE MOUNTS

Unisorb offers three cost-saving benefits for installing looms, twisters, spoolers, warpers and similar equipment . . . Legs or framework can be solidly secured to the floor without bolts or lag screws; No danger of machines "walking"; and Up to 85% of transmitted vibration is absorbed. Good on concrete or wood.



Machines with long drive shafts need special Type "T" Unisorb mounting. This Respooler was installed quickly, without bolts or lag screws and operates smoothly at low noise level.

Every machine has a vibration "personality." Different machines require different densities. Only Unisorb provides the right density and thickness.

Try Unisorb on our trial offer! Let us send you the right density and thickness for a specific machine. If not satisfied, return within 30 days and we'll cancel the invoice. Write or call, today

UNISORB Division of the FELTERS Co.

Textile Supply Company, Dallas, Texas — Industrial Supply Company, Clinton, S. C.

Want more information? Send for set of Unisorb "Facts" Books!

212 South St., Boston, Mass.
Division of The FELTERS Company

Please send me a set of Unisorb "Facts" Books and trial offer request.

Company.....
Name.....
Address.....
City.....Zone....State.....

Personal NOTES ABOUT MEN YOU KNOW

LaFleur has been assigned to Spartanburg as group leader for wool and worsted research at Deering Milliken Research Corp.'s new headquarters. **E. E. Hance** steps into the position of technical superintendent in Union, vacated by Mr. LaFleur. **Roy H. France** assumes Mr. Hance's former position as superintendent of finishing. **William T. Eison** has been named superintendent of Hatch Mill Corp., Columbus, N. C., while **Neil E. Constance** succeeds Mr. Eison as overseer of preparation at Union.

Gayley Mill Corp. has appointed **James H. Rutledge** superintendent. Mr. Rutledge was formerly at Excelsior Mills, Inc., Union, S. C.

The Linens and Domestics Buyers of America, Inc., has named **James E. Robison,** president of Indian Head Mills, Inc., "Manufacturer of the Year." The development of the

Mr. Robison (left) receives the "Manufacturer of the Year" award from Rudolph Boehler, president of Linens and Domestics Buyers of America, Inc.

first no-iron sheet, marketed under the Pequot Easy-Care brand name, was cited as the significant factor in the selection of Mr. Robison to receive the award.

Recently named president of the Nye-Wait Co., a new carpet manufacturing subsidiary of Fieldcrest Mills, Inc., was **H. W. Whitcomb** who is also president of the parent company. **G. E. Schulz,** formerly president, was appointed chairman of the board of Nye-Wait.

C. B. Conway has retired as president, treasurer, and general manager of Danville (Va.) Knitting

(Continued on page 38)

Penford Gums THE **MODERN** WARP SIZING FOR **MODERN** WEAVING

Penford Gums provide exceptional warp yarn protection in weaving all modern fabrics — Viscose, Cotton, Worsted, Acetate, Nylon, Dacron, Acrilan, Orlon, Dynel, Zefran and blends.

There is a Penford Gum that will fit your warp sizing requirements. Penick & Ford Technical Sales Service Engineers will gladly assist you by recommending exact formulations and will provide continuous technical service. Write us today.

Parks-Cramer®

CERTIFIED CLIMATE®

Automatic Airchanger®

Central Station Systems

GraduVac Humidification

Air Washing

Refrigerated Cooling

Since 1904 when Stuart W. Cramer originated the term "Air Conditioning," Parks-Cramer Certified Climate Systems have helped hundreds of textile mills produce more and better product, at less cost.

Booster Humidification

Yarn and Cloth Conditioning

Psychrostat® Regulation

Certified Climate is a complete line from atomizer humidifiers to central air washer systems. A high percentage of the components of Certified Climate are manufactured in Parks-Cramer shops. The Parks-Cramer field organization continues an active interest in this equipment long after installation.

Turbomatic® Humidification

Dehumidification

Hygrostat Regulation

Automatic Filters for air and water

Ductwork and Accessories

Certified Climate engineers are interested in the study and solution of any air conditioning problem in your mill, whether simple or complex—large or small.

Gradumatic® Humidification

Laboratory Air Conditioning

Evaporative Cooling

Gradual Acting Controls

Ventilation and Air Circulation

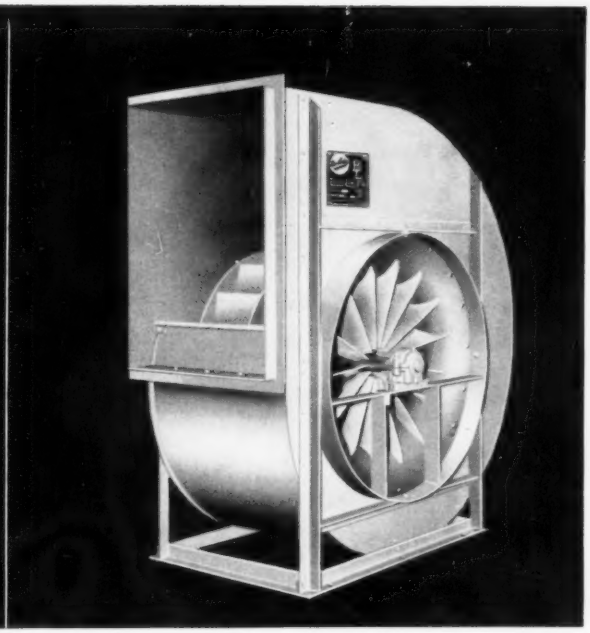
Parks-Cramer Company

Design Manufacture Installation Service
Certified Climate Traveling Cleaners Vacuum Systems

FITCHBURG, MASS. CHARLOTTE, N.C. ATLANTA, GA.

410

For Classes III-IV (High Pressures) The "Buffalo" Type "BLH" Fan



For Classes I-II (Moderate Pressures) The "Buffalo" Type "BL" Fan

FOR THE BEST ENGINEERED JOBS, SPECIFY BUFFALO "JOB-SUITED" FANS

For central system applications you don't have to accept a "compromise fan", loosely designed to cover any and all pressure requirements. "Buffalo" builds *two* fans, each engineered to fulfill specific pressure requirements to the highest possible degree. Brief engineering details on these "no compromise" "Buffalo" Fans are given below.

The "Buffalo" Type "BLH" Fan is recognized by engineers and contractors alike for its outstanding performance in Classes III and IV service. The "BLH" maintains an extremely high mechanical efficiency of 86% over a broad operating range. The smooth inlet bell with matching shroud, directional inlet vanes, backward-curved blades and divergent outlet all contribute to quiet operation and minimum turbulence. "Buffalo" engineering features, plus husky construction, add up to an efficient high pressure fan that will deliver long, faithful, maintenance-free service. When you plan a conduit system or other Class III-IV installation, be sure to specify the "BLH". Call in your "Buffalo" representative or write for Bulletin F-200.

The "Buffalo" Type "BL" Fan has gained wide acceptance for peak performance in major Class I and II installations throughout the country. Non-overloading, the "BL" provides quiet, stable, output from free delivery to shutoff. The smoothly-curved inlet bell, with directional guide vanes and matching shroud, assures minimum turbulence. Highest efficiency is attained by the streamlined wheel with backward curved blades, factory tested and balanced to hold vibration to an absolute minimum. The correctly shaped scroll of the wheel-contoured housing further contributes to smooth air flow. For full information on the rugged, reliable "BL" Fan for Class I and II conditions, contact your "Buffalo" engineering representative. Or, write direct for Bulletin F-104.

You get a *value dividend* with the "Q" Factor — the built-in QUALITY that provides trouble-free satisfaction and long life in *every* "Buffalo" product.

"Buffalo"

BUFFALO FORGE COMPANY • Buffalo, New York

Buffalo Pumps Division, Buffalo, New York

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING FORCED DRAFT COOLING HEATING PRESSURE BLOWING

The World's Most Advanced

Spinning Frame . . the WHITIN PIEDMONT

Whitin made this claim for the new Whitin PIEDMONT Spinning frame—even while it was in its development stages and still under wraps.

During its first public showings at the Southern Textile Exposition in Greenville, S. C. and at the International Textile Machinery Exhibition in Manchester, England, thousands of textile experts and mill men from all over the world were quick to agree with the validity of our claims. Their complete and enthusiastic endorsement of the PIEDMONT exceeded our most optimistic expectations.

A score of new and exciting features created the indelible impression of smart design, advanced engineering and outstanding performance.

FEATURES OF THE NEW PIEDMONT SPINNING FRAME

★ HIGHER PRODUCTION SPEEDS ★ SCIENTIFIC BALLOON CONTROL RINGS

★ SINGLE SPINDLE DRIVE WHICH ELIMINATES CYLINDER, TAPES AND TAPE TENSION PULLEYS

★ MODERN HEAD END ENCLOSING NEW GEARING AND IMPROVED BUILDER

★ BUILT-IN WASTE REMOVAL AND MOTOR HEAT DISSIPATION

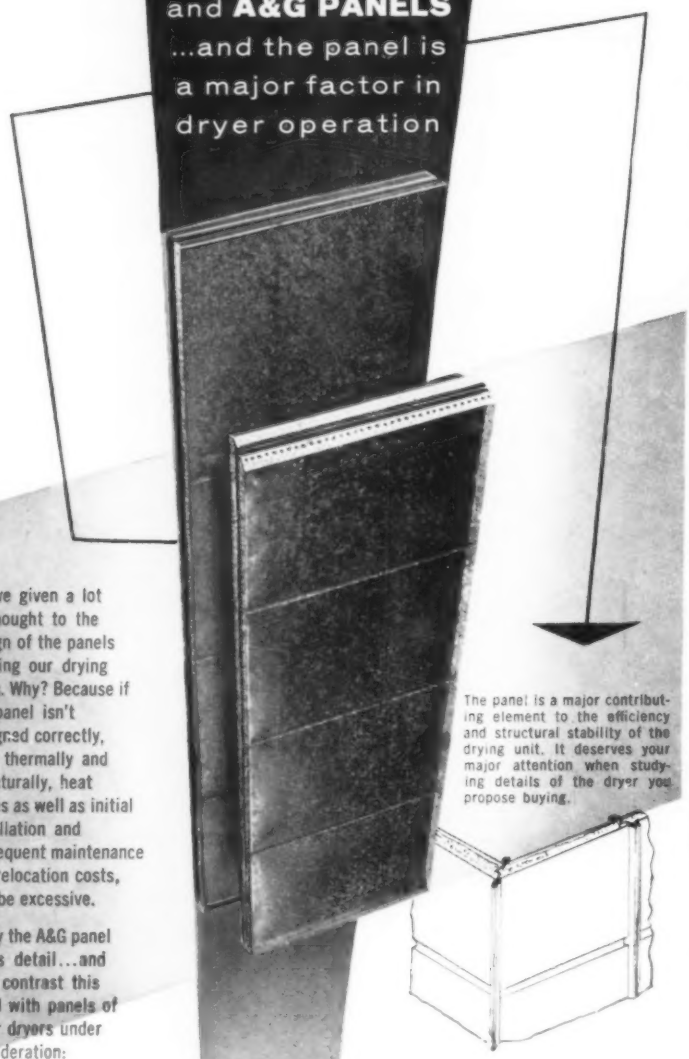
★ SIMPLIFIED CLEANING ★ PRECISION CONSTRUCTION ★ MODERN STYLING

WHITIN MACHINE WORKS WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

TEXTILE DRYING EQUIPMENT

There are panels and **A&G PANELS** ...and the panel is a major factor in dryer operation



We've given a lot of thought to the design of the panels housing our drying units. Why? Because if the panel isn't designed correctly, both thermally and structurally, heat losses as well as initial installation and subsequent maintenance and relocation costs, may be excessive.

Study the A&G panel in its detail...and then contrast this panel with panels of other dryers under consideration:

The panel is a major contributing element to the efficiency and structural stability of the drying unit. It deserves your major attention when studying details of the dryer you propose buying.

Note the:

a self-supporting steel envelope construction with Fiberglas* insulation
b dove-tail and interlocking edge strips
c non-conduction of heat through the panel by elimination of through tie bolts
d horizontal opposing depressed ribs which prevent bat sliding and add structural rigidity
e punched holes in edge strips minimizing conduction losses
f ease of assembly and disassembly in the field
g completely fire-proof design
h shiny outer skin to minimize radiation losses to the room

*Owens-Corning Fiberglas Corp.

THE MIDLAND-ROSS GROUP OF COMPLEMENTING SERVICES

ANDREWS & GOODRICH
Division Midland-Ross Corporation
336 ADAMS STREET, BOSTON 22, MASS.
Southern Representatives: McSpadden & Scantland, Charlotte, N. C.

Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 32)

Mills, Inc., after 40 years with the firm, but continues in a consulting capacity. He has been succeeded by **L. P. Moss.**

The William Carter Co. has appointed **Natalie Fisher** editor of *Carterama*, company magazine. Miss Fisher will work in the advertising department in the firm's home offices in Needham Heights, Mass.

Miss Fisher

Miss Sheppard

Anne Sheppard has accepted a position with the publicity department of the Tufted Textile Manufacturers Association, Dalton, Ga.

Elton D. Crenshaw has been appointed to the newly created position of merchandise coordinator for all mills for which Deering, Milliken & Co., Inc., is selling agent. He will continue to make his headquarters in Spartanburg, S. C.

The Greenville, S. C., chapter of the Society for the Advancement of Management honored two textile men at a banquet recently. Joint awards as "Citizens of the Year" were presented to **Robert T. Stevens,** president of J. P. Stevens & Co., and **Roger Milliken,** president of Deering, Milliken & Co., Inc.

S. J. Craig, Jr., has aceepted a position as general manager of Drayton Mills, Spartanburg, S. C. He was formerly manager of Hatch Mill Corp., Columbus, N. C.

J. P. Stevens & Co., Inc., has announced the following promotions: In the Greenville group of the cotton division, **N. B. Glenn** has been named general superintendent of the Appleton plant at Anderson, S. C. Promoted to the position of superintendent was Mr. Glenn's assistant, **A. A. Davis.** New general superintendent of Piedmont, S. C., plants 1

For every production run . . .

keep your weaving schedules on time

with Clinton Products

For every warp-sizing job, you can rely on Clinton corn starches. These products yield sizes with uniform viscosity that produce the same results every time, because:

CONSISTENT FORMULATION MAKES CLINTON PRODUCTS RELIABLE

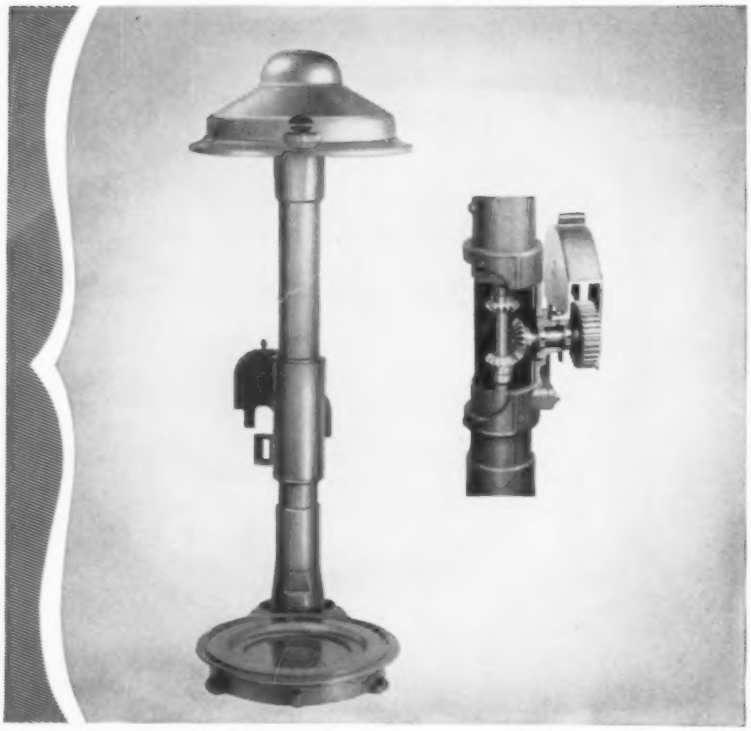
Three analytical control laboratories and several single-purpose testing stations are located at strategic points in our plant. They check every stage in the processing of *all* products . . . they check *all* finished products to be sure specifications are met exactly. That's why you can depend on Clinton products to do the job for which they are needed.

Your Clinton salesman can help you select the right starches to produce the sizings you want. And, should you need special production advice, *prompt* technical service is available when you need it. Call your Clinton salesman today, or write:

CLINTON CORN PROCESSING COMPANY
CLINTON, IOWA

CLINTON

. . . Where research today improves tomorrow's product



SOUTHERN STATES' NEW COILER LINE HAS ALL ENGINEERING AND DESIGN FEATURES WANTED BY MILL MEN

To provide mills with a premium-quality coiler, every engineering and design feature wanted by mill men has been included on the new Southern States Coilers.

A new center adapter (see cutaway view above) permits the stand, head, and base to swivel as a unit within the adapter collar. The coiler may thus be offset for can diameters up to 20 inches and still maintain a straight gear drive take-off for coilers of all makes.

Southern States Coilers are designed for direct attachment to any make of card, left or right hand. Installation is rapid and economical. Other outstanding features of the Southern States Coiler include: ball bearing throughout—head, shaft, cantable ... cut tooth gears throughout ... tubular steel stand ... precision-ground calender rolls ... self-aligning pillow blocks on upright and calender roll shafts ... fully adjustable can table ... quickly detached coil spring roll-loading device ... and many others fully described in our Technical Bulletin 205, available from your Southern States representative or by mail direct from us.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

Personal NOTES ABOUT MEN YOU KNOW

and 2, the Apalache plant, Greer, S. C., and the Jonesville, S. C., plant is **P. W. Nipper, Jr.** Promoted to superintendent of Piedmont plants 1 and 2 is **Verner T. Jenkins.** In the Rock Hill group, **Albert S. Hartsell** has been promoted to general superintendent of the Industrial plant, Rock Hill, S. C.; **M. Hurt Ramsey, Jr.,** succeeds him as superintendent of that plant. **Leland Burns** has been appointed general superintendent of Republic plants 1, 2, and 3, Great Falls, S. C. **Walter A. Lefler** is promoted to superintendent of Republic plant No. 1; **John W. Wood** becomes superintendent of Republic plant No. 2, and **Melvin Smith** is named superintendent of Republic plant No. 3. * * * **C. L. Tidwell,** manager of the Dunean plant, Greenville, S. C., and the Watts plant, Laurens, S. C., has also been named manager of the Monaghan plant in Greenville. **J. D. Sheppard** has been appointed manager of the Aragon plant at Rock Hill, S. C. He manages the Cleveland plant, Shelby, N. C., the Stanley, N. C., plant and the Randleman, N. C., plant. * * * **Dan M. Leister** has been appointed general manager of the Roanoke Rapids group.

Werner B. Hug has been appointed a vice-president of Frank Ix & Sons. He is in charge of the technical and development departments.

The election of three new vice-presidents has been made known by A. & M. Karagheusian, Inc. They are: **John T. Lees,** vice-president in charge of sales; **George Paules,** vice-president in charge of manufacturing; and **Richard M. Dorian,** vice-president in charge of research and engineering.

Richard V. Figueroa has been appointed executive vice-president of Catalina, Inc., Los Angeles, Calif. Named vice-presidents in charge of their respective divisions are: **C. W. Frazier,** ladies' play-abouts and fall sportswear; **Kent Steinbrenner,** children's swimwear and sportswear; **C. A. Trowbridge,** men's and boys' swimwear and sweaters; and **Joe K. Steele,** ladies' and children's sweaters. **Norman Hinerfeld** has been appointed vice-president in charge of manufacturing.

(Continued on page 188)

She'll change from shopper to buyer... when you use a MEAD·ATLANTA CARTON!

Make a good first impression . . . with a Mead-Atlanta Carton! Will she buy? Or will she ask to "see something else"? The answer's in your package! You're safe . . . if your package is made by Mead-Atlanta, where packaging is advertising.

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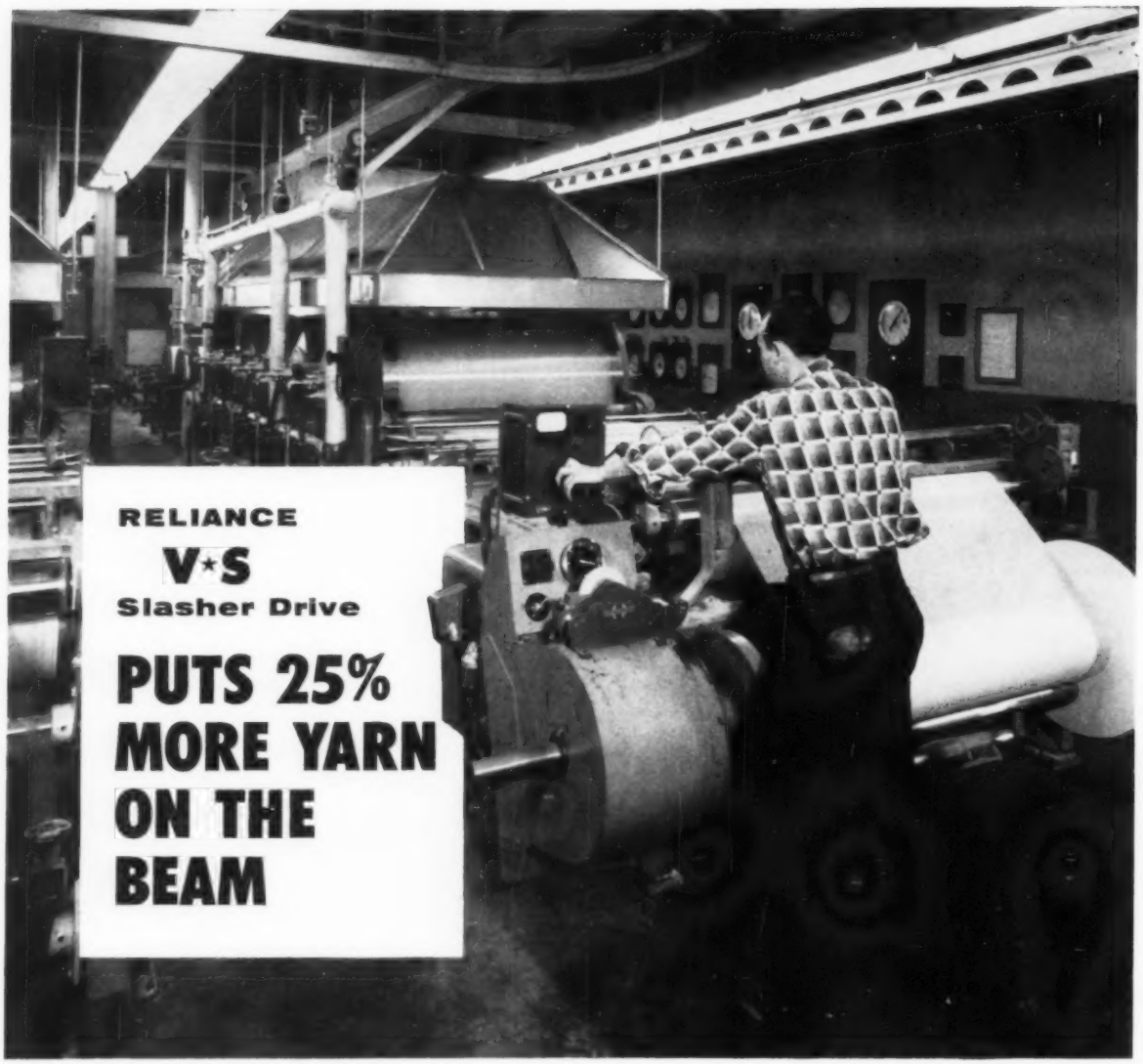

RELIANCE V★S Slasher Drives give you exacting tension control. Yarn tension is uniform from empty to full beam.

Uniform tension adds to weave room efficiency and also puts more yarn on each beam. A leading textile mill finds it can put 25% more fine count cottons on a beam with their new Reliance powered slasher.

Tension is accurately maintained through the whole speed range of the slasher, 4 to 140 ypm. Ends are handled gently with cushion starting and stopping. Put more productivity into *your* sizing operation by specifying Reliance as your next slasher drive.

For more information on Reliance V★S Slasher Drives, contact your local Reliance Representative or write today for Bulletin D-2506. L-1599

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Our customers tell us that our textile chemical products are tops. But our research chemists don't rest on their laurels. They are continually working to improve the present and develop the new.

If your mill is planning to run something different or if you have a new problem, our researchers will be happy to work with you.

They are as close as the telephone at your elbow.

Warp Sizing: *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing, Waxes.*

Wet Processing Chemicals and Auxiliaries: *Dye Assistants, Penetrants, Rewetting Agents, Sanforized Fabric Oils, Detergents, Scouring Agents, Softeners.*

Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

Seyco Warp Lubricator.

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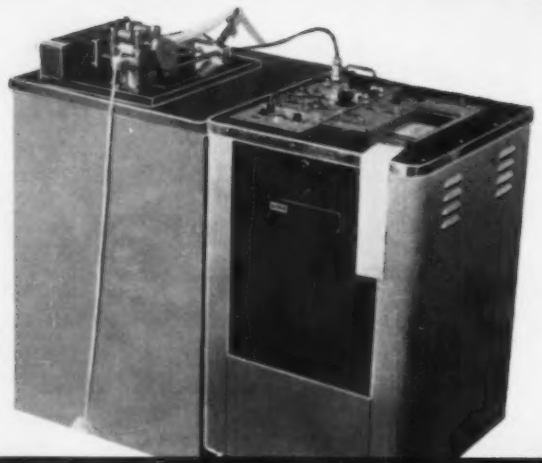
USTER

LICKS YOUR FIBER DRAFTING PROBLEMS!

WEST POINT COHESION TESTER PREDICTS!



PREDICTS effect of roll spacing

PREDICTS effect of bi-directional drafting

PREDICTS effect of humidity

PREDICTS effect of draft

Provides fast and efficient cohesion test for maximum fiber control and proper blending in processing. Eliminates numerous tests for fiber length, fiber fineness, surface characteristics, wax content, etc. Compensates for variations in raw material to achieve optimum twists for roving. Determines drafting properties of synthetic, natural and blended staples. 1⅛" minimum, 8" maximum roll setting.

THE USTER SPECTROGRAPH PROVES!

PROVES production machinery settings

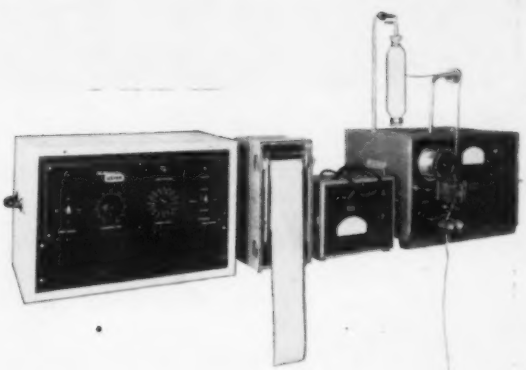
PROVES mechanical condition of machines

PROVES short, medium, long term variations

PROVES final fabric appearance in 4 to 6 minutes

The Uster Spectrograph introduces an entirely new concept of fiber control during processing. The Spectrograph describes mechanical troubles and machinery setting faults in the drafting zone. Simultaneously with the operation of the Evenness Tester, the Spectrograph automatically analyzes short, medium and long term variations. The result is stored on numerous channels with the Spectrogram chart delivered in 4 to 6 minutes.

FOR THE COMPLETE PICTURE WRITE, WIRE OR PHONE USTER.



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SOLVAY POTASSIUM CARBONATE

SOLVAY Potassium Carbonate is more soluble and has greater reactivity than sodium carbonate (soda ash). This permits the use and packing of more efficient, more concentrated solutions . . . with savings in handling, storage and packaging. The greater reactivity of the product means better results in many uses.

These dual advantages are being utilized by users and producers of liquid soaps and detergents; producers of special boiler and other cleaning compounds; as well as chemical and textile processors.

*At 68°F.

Write for New Potassium Carbonate Booklet
Features useful facts on physical and chemical properties, reactions, major uses, forms, packages, solubility, etc.

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Don't Stop Production Machines

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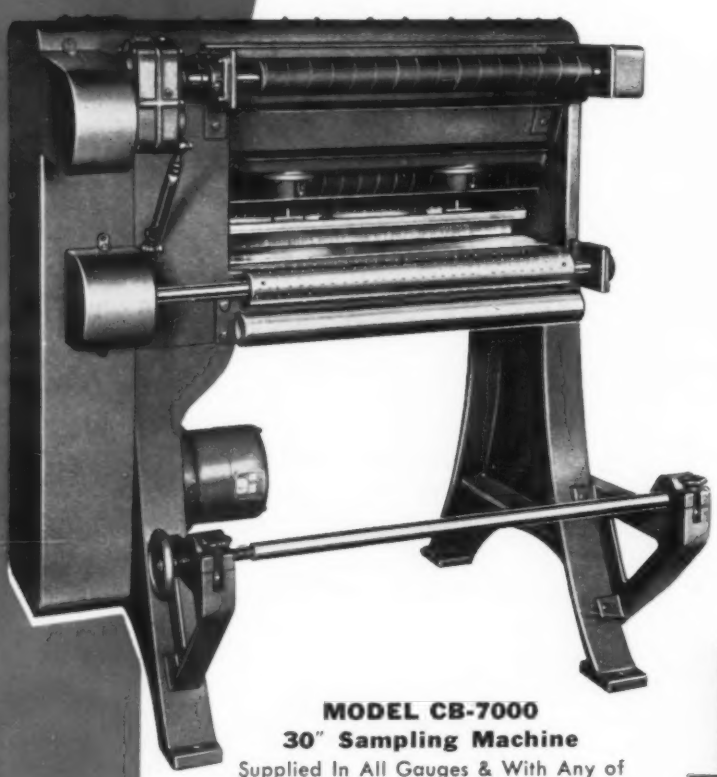

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30" Sampling Machine
Supplied In All Gauges & With Any of the Following Attachments: Roll Type, Universal Type, Controlled Needle, Alternate Loop/Cut.

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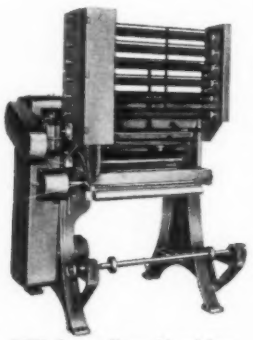

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Textile Industries
for December 1958

News IN BRIEF

Textiles Pace Recovery. Textile and apparel production soared from an index of 98 (1947 - 1949 = 100) in April to 109 in September, more than making up for the loss in the sharp downturn beginning in the fall of 1957. Because of its large weight in the Federal Reserve Index, the combined textile and apparel industry accounted for one-third in the total May-September rise of seven points in the nondurable goods production index.

Southern Textile Men Avoid Wage Hearing. Except for a representative of the American Cotton Manufacturers Institute, who took no part in the proceedings, southern textile men were conspicuous by their absence at the recent Labor Department hearing on the Walsh-Healey Act. The hearing is expected to result in a hike in the minimum wage on government contract work in the cotton, silk, and man-made textile industries.

Cotton Quality Picture Brighter. American Cotton Manufacturers Institute has called to the attention of its members two technical developments which it says are aimed at the preservation of raw cotton quality: New spindles for cotton harvesting machines, which require little or no water (thus eliminating one of the reasons for overdrying at the gin); and a new jute bagging pattern which will give better protection to the bale ends and provide for sampling with minimum damage to the bagging.

Give Gifts of Textiles. A plan for an industry-wide merchandising program to promote the idea of giving textile and apparel items as gifts was launched at the recent Southern Textile Exposition by Robert E. Pomeranz, president of Roberts Co. An industry committee will conduct the campaign.

Beware of Price Comparisons. The National Association of Hosiery Manufacturers has warned its members against becoming involved with retail stores in fictitious price comparisons. The

Creation of Large Industry Promotion Fund Urged

■ Cooperation of mills, fiber producers, and other segments of the textile industry has been requested for the immediate creation of a 10- to 15-million-dollar annual promotion fund for increasing the consumption of textiles.

Addressing those gathered for the annual Textile Award luncheon, sponsored by the Textile Section of the New York Board of Trade, Ralph J. Bachenheimer of Iselin-Jefferson Co., Inc., and chairman of the group, recommended that the fund be raised by imposing a small assessment on every pound of fiber consumed.

Following is an extract of Mr. Bachenheimer's remarks:

"There is nothing our industry needs more urgently than to make an early concerted effort to obtain a larger share of the consumer dollar. Other industries have done this successfully in the past, while we have never been able to get together on a program of this kind.

"A committee of the A. C. M. I., under the chairmanship of William E. Reid, president of Riegel Textile Corp., is studying the problem, but I believe the time has come when we should stop talking and start taking some definite action.

"The most consistent figure mentioned for an effective textile promotion program is a 10- to 15-million-dollar annual fund, and such a program, in order to be effective, would have to be conducted on a five-year basis.

"Inasmuch as all segments of the industry, such as mills, fiber producers, and other components, would benefit by such a program, we feel that all of these should contribute proportionately.

"Being in the unique position of having all these various elements of the textile industry among our members, we feel that the Textile Section of the New York Board of Trade is the ideal medium through which such a program could be gotten off the ground.

"The actual administration of the program should certainly be handled through the A.C.M.I., but we offer our services to translate aggressive thinking into aggressive action.

"Staggering as the sum I mentioned may be, we feel that the easiest and least painful way to raise it will be by imposing a small assessment on every pound of cotton and synthetic fiber utilized in this country.

"It would take less than a quarter of a cent on each pound of cotton consumed, and equivalent amounts on each pound of synthetic fiber consumed, to raise this fund. The burden would be equal for all producers, but the benefit derived from a properly conceived promotion program could reach amazing proportions.

"We offer the framework of the Textile Section to implement the starting phases of this program. It is up to all of you to take us up on our offer!"

See the 1959 Beechcraft models

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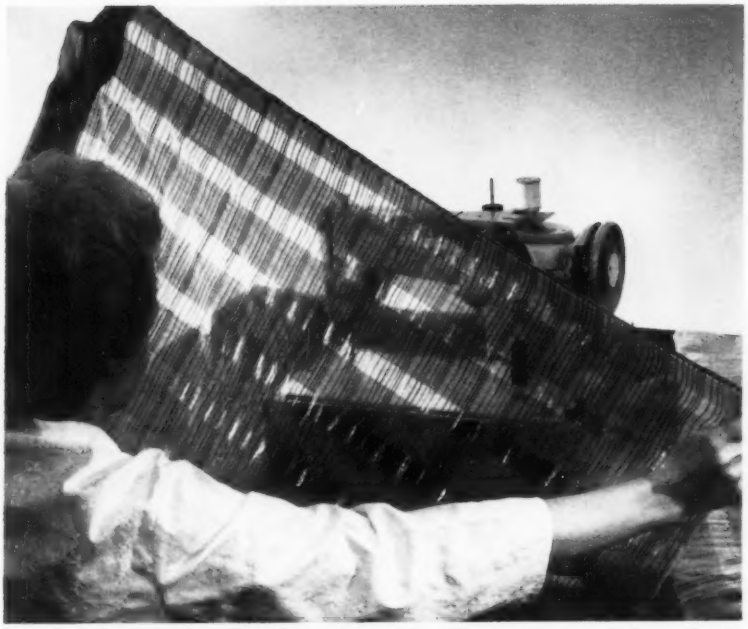
BEECHCRAFT — AIRFLEET OF THE TEXTILE INDUSTRY



Typical of the decorative effects being obtained by mills weaving yarn of clear polyester film into their goods is the transparent stripe in this new fabric being offered by Forster Textile Mills of Chicago Heights, Ill. According to a report in the "Du Pont Magazine," the fabric hangs well and can be washed and ironed.

News in Brief

Association notes that hosiery has been conspicuous in such promotions, and that therefore the Better Business Bureaus and the Federal Trade Commission are keeping the industry under close scrutiny and will proceed against any violation that comes to their attention. A cease-and-desist order is not painless: A firm must live with it for the rest of its business life. And in any unpleasant developments, it's usually the mill that takes the rap.

No Canadian Duty on UK Machinery. Textile machinery from the United Kingdom can enter Canada duty-free, says Canadian Finance Minister Fleming, and no changes are contemplated. American textile machinery also enters Canada without paying duty.

Postage-Due Penalty Postponed. The Post Office Department has postponed until February 1, 1959, the collection of a five-cent penalty, in addition to the postage deficiency, on postage-due mail.

Clothing Purchases Up for the Long Pull. Consumption of clothing is in a long-range upward trend in line with the general rise in consumer spending, M. K. Horne, chief economist for the National Cotton Council, told a Senate subcommittee recently. Reasons: Cyclical recovery, end to loss in net textile exports, faster rate of population increase in age group which uses the most clothing, increased emphasis on "revolving" consumer credit, and recently enacted cotton legislation.

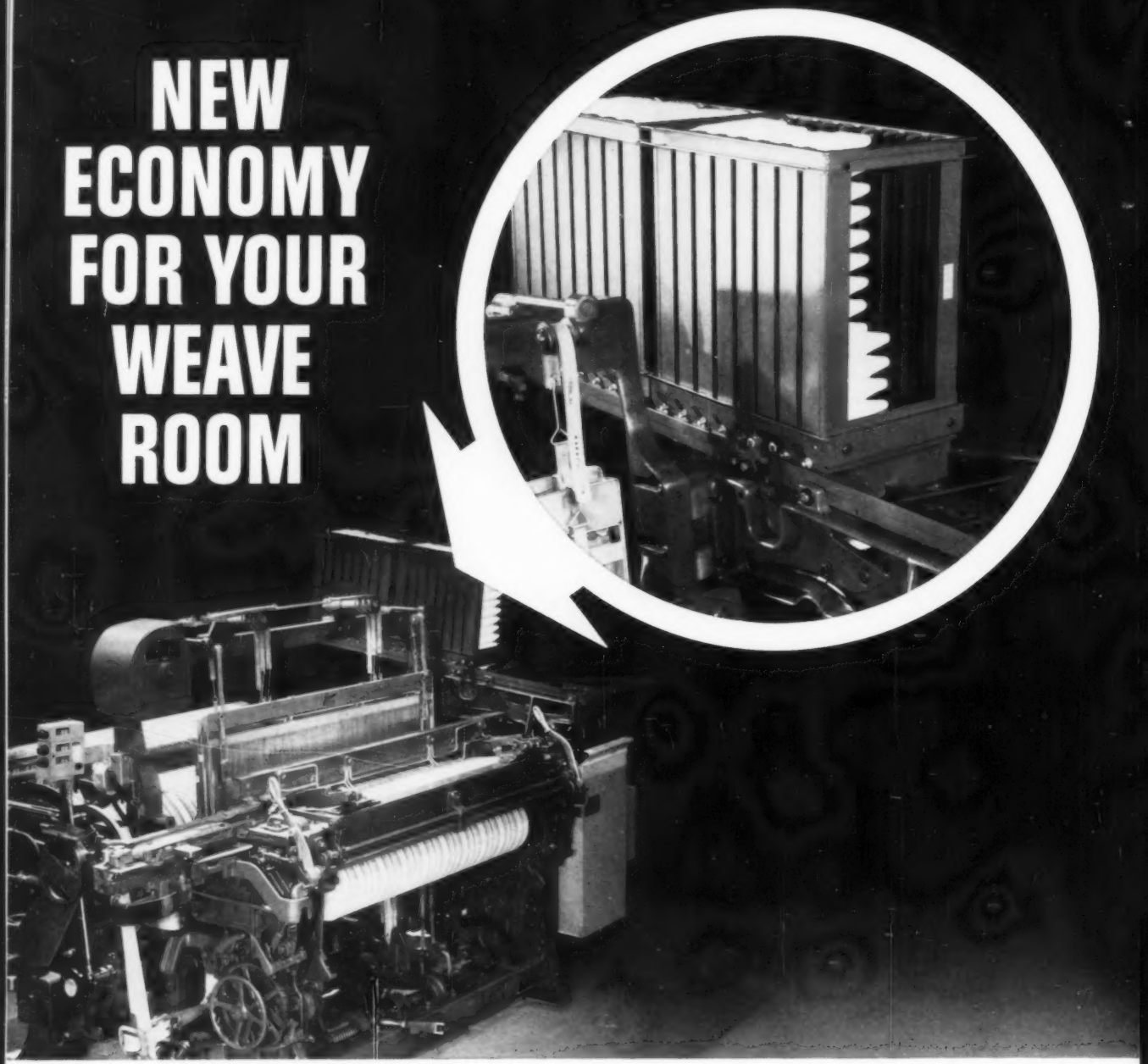
How to Spot Orlon. Orlon can be distinguished from other acrylic and related fibers, except Verel, by its "dog-bone" cross section, says Du Pont Co. in a recent bulletin. To distinguish Orlon from Verel, boil the sample for 30 minutes in 100% acetone. Verel dissolves; Orlon does not.

Nylon Going Up. Specially treated nylon yarns, important types of which are now under allocation, can only rise in price, says the National Association of Hosiery Manufacturers in warning its members that mills setting spring prices on present costs are taking a desperate gamble.

Textile Upturn Started. "Looms are lively again," says *The Value Line Investment Survey*, citing inventory rebuilding, strong retail sales, and improved demand from the automobile industry. But of even greater long range significance, the *Survey* believes,

More than 4,000 yards of a special aluminized asbestos fabric form the interior of this aluminum geodesic dome enclosing the new Casa Manana opera house in Fort Worth, Texas.

NEW ECONOMY FOR YOUR WEAVE ROOM



The Draper Automatic Filling Magazine brings new economy to your weave room, by reducing filling handling to a minimum. More continuous loom operation, cleaner yarns and fewer cloth seconds are direct advantages gained from the use of this magazine.

DRAPER CORPORATION

HOPEDALE, MASS.

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is the textile industry's apparent determination to avoid the output excesses of the past, as evidenced by extended Thanksgiving and Christmas shutdowns of leading print cloth mills and their plans for not exceeding a five-day week for the rest of the year.

Census to List Textile Inventories. The Bureau of the Census plans to start a quarterly survey of textile inventories next month. Initially, the survey will cover

yardages of all types of woven fabrics held by mills, finishing plants, converters, and perhaps jobbers.

PA's Broke the Recession. "Economically speaking, today's purchasing agents are on the front line," Clyde O. Long, president of B. F. Goodrich Industrial Products Co., told a recent meeting of the Purchasing Agents of the Southeast. He credited indus-

trial purchasing with pulling the economy out of recession and predicted that capital goods will play a more important role in the current business recovery than in 1954, when an upturn in consumer buying was the major expansionary factor.

Textile Men Back to School. Eight senior officials of North Carolina textile mills, four from South Carolina, and one from Alabama are among 40 leaders of business and industry who are currently enrolled in a six months' course in advanced management at the University of North Carolina. The course started with a six-day initial program; during the winter the group will meet for alternate week-ends, and the program concludes with another in-residence week in March.

Southern Rail Rates Down. Reductions of 10 to 15% on carload shipments of textile products by rail between southern points and points north of the Ohio and Potomac Rivers and east of the Mississippi became effective on November 13. The increase in rates on rayon and synthetic waste materials between southern points and points intermediate to

News in Brief

"Keep Government Out of Cotton Business"—Cannon

■ "The attitude of the federal government, as represented by the departments with which we must deal in Washington, has created in the minds of many of us the feeling that somewhere behind the scenes the textile industry in this country is considered expendable.

"We feel that the rules, regulations and expense to which we have been subjected indicate that the bureaucrats in Washington feel that if the textile industry can be liquidated in this country and we could depend on foreign countries to produce our textile needs, the United States would probably be better off.

"The reduction of cotton acreage and thereby farm income, along with the unemployment caused by the shrinkage of the textile industry and all its allied industries, seem to our internationalist-minded bureaucracy a perfectly reasonable price to be paid if we can import goods made by foreign countries to take the place of American goods.

"Our State Department seems to feel this is a small price to pay for the good will of foreign countries, even if hundreds of thousands of Americans throughout many states are deprived of their means of a livelihood.

"We do not want the government to subsidize our domestic operation.

"We do not want the government to spend the taxpayers' money setting up any more agencies to regulate or supervise our business." Witnesses at prior hearings have suggested that such an agency be established.

"And above all, we do not want the federal government to embark upon any program to try to do for the mills what it has tried to do for agriculture. We are in bad enough shape as a result of the programs to save the cotton farmer, and, if anything, the cotton farmers are worse off than we are.

"We do ask for relief from the confusing and costly double set of operating rules and records required by the Walsh-Healey Act, from which we can see no benefit accruing to anyone." [Walsh-Healey permits the Secretary of Labor to set "prevailing wages" in mills filling government contracts for $10,000 or more, which, Mr. Cannon said, requires mills to operate under two minimum wage laws—Walsh-Healey and the Fair Labor Standards Act.]

"We do ask for relief from the ridiculous and capricious actions of the Federal Trade Commission in regard to labeling.

"We do ask for relief under Section 22 of the Agricultural Adjustment Act to restrict the imports of cotton goods from low-wage countries which deprive American farmers of domestic markets and American workers of jobs.

"We do ask for the ultimate goal of adequate domestic cotton production, marketed through normal trade channels at competitive prices here and abroad, with adequate protection for the net income of the cotton farmer.

"As far as the raw cotton problems of our industry are concerned, the first thing we ask for in Washington is a frank and open understanding that the textile industry must ultimately have its raw material at full competitive prices if it is to expand and prosper and in this field the textile industry is wholly dependent upon the actions of the federal government." — C. A. Cannon, president of Cannon Mills Co., in testimony before special subcommittee of the Senate Interstate and Foreign Commerce Committee.

Better dyeing

by **INTERNATIONAL SALT COMPANY, INC.**

How to Save 5-10% on Dyes ...Get Better Colors, Too

You can do it by using new Sterling TNA-5 Reagent in place of ordinary salt in neutral and alkaline dye baths. This remarkable reagent can cut as much as $375 from a monthly dye expenditure of $5,000 by making dyes "work harder." Compared with ordinary salt, Sterling TNA-5 forces *more* dyestuff out of solution and onto the fabrics being dyed. Thus, 5-10% less dyestuff is needed! Annual savings on dyestuff alone can amount to *thousands of dollars!*

Product quality, furthermore, is greatly improved. Finished fabrics are softer, smoother, richer in color, evenly dyed throughout. This is because TNA-5 is free of any calcium or magnesium impurities that can cause product harshness, "salt streaks," or uneven colors. Sterling TNA-5 is composed of fine, white, granular anhydrous crystals . . . and is classified as a chemically pure dyeing reagent. TNA-5 also has these additional advantages:

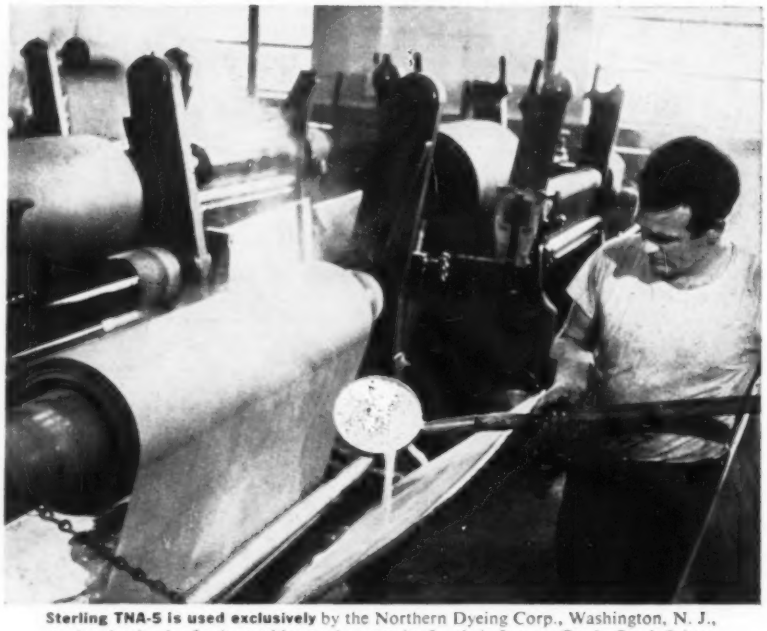
1. Costs less than Glauber's Salt. Sterling TNA-5, the purest dyeing reagent available today, actually costs *50% to 65% less* than Glauber's Salt (anhydrous sodium sulfate). Yet TNA-5 replaces Glauber's Salt on a pound-for-pound basis . . . and has an equally good exhaustion rate.

2. Extremely versatile. You can use Sterling TNA-5 in a neutral or alkaline dye bath to dye cotton, rayon, or any blend of these fibers with wool. TNA-5 is equally effective in staple, yarn, or piece-goods dyeing. And it is especially helpful in direct, sulphur, or naphthol dyes, where it produces excellent crock fastness and clear, brilliant colors.

3. Readily soluble. Sterling TNA-5 dissolves quickly and completely in hot or cold dyeing solutions. And the dissolved reagent soon permeates the entire bath. Thus, you can add dry TNA-5 to a dye bath without causing salt streaks in the finished product.

4. Works dry or in brine form. Whichever way you prefer to use Sterling TNA-5—dry or as brine—you'll get the same excellent results. Many users, however, make TNA-5 into brine in the automatic Sterling TNA-5 Dissolver. This permits economical bulk buying of TNA-5, plus the extra convenience of *piping* TNA-5 brine to the different dye baths.

5. Recommended by dyestuff manufacturers. Sterling TNA-5 has won the approval of many dyestuff manufacturers. The main reason is that this remarkable dyeing reagent lets their dyes show up better on a variety of fabrics. In fact, dyestuff manufacturers were instrumental in getting TNA-5 tested and accepted in a great many plants throughout the country.



Sterling TNA-5 is used exclusively by the Northern Dyeing Corp., Washington, N. J., to give the depth of color and luster they require for their famous Castle Creek Prints.

INTERNATIONAL SERVES ALL OF TODAY'S TEXTILE NEEDS

Through skilled and experienced salt specialists, International Salt Company can help dye houses and textile mills get greater efficiency and economy in their dyeing processes. In addition to new Sterling TNA-5 Reagent, International also produces high-quality Sterling Evaporated and Sterling Rock Salt in all types and sizes. And we also make automatic dissolvers in metal or plastic for these products. So we can recommend the type of salt most perfectly suited to your plant's needs.

If you'd like the assistance of an International technician on any problem concerning salt or brine—or further information on new Sterling TNA-5—call your nearest sales office. Or write to us direct.

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Modern research in textiles gives you **STERLING TNA-5**

PRODUCT OF INTERNATIONAL SALT COMPANY INC.

Norma Kurtz, professional sheep shearer of Woodstown, N. J., stumped the panel of the TV show "What's My Line?" when they tried to guess her job recently. John Daly, above, is moderator of the quiz show.

St. Louis, which became effective on last February 15, are also scheduled to be eliminated.

School Enrollment Down. The School of Textiles at N. C. State College opened this semester with 64 fewer students than in the fall of 1957, with 16 fewer freshmen reporting. Textile enrollment at Clemson College dropped by 32 students, with most of the drop in the freshman class.

AATCC Headquarters Move? Comment is increasingly heard among members of the Southern Region of American Association of Textile Chemists and Colorists that the national headquarters of the Association should be moved

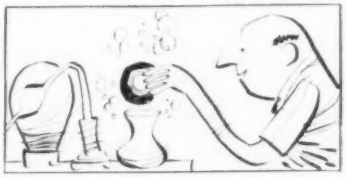
from Lowell, Mass., to the South, in keeping with the movement of the textile industry. Suggested sites include Raleigh, N. C.; Clemson, S. C.; and Atlanta, Ga.

Tufted Carpets Continue Climb. By the year's end, 65 million square yards of tufted carpets will have been made in the U. S., a gain of about 16% over 1957 and 35% over 1956, the American Carpet Institute estimates. During the same period, woven carpet production is expected to total about 47 million square yards—down 16% from the 1957 level. It is estimated that dollar volume of sales of both types for 1958 will slip to about $571 million, 6% below last year.

More Proof on Gin Damage. Detailed studies have shown that excessive drying and handling of cotton is resulting in "poorer processing performance in the mill at both spinning and weaving stages, poor quality of yarn both as to strength and appearance, and . . . in inferior fabrics," Walter Regnery, president of Joanna Cotton Mills Co., told the recent Spinner-Breeder Conference. He made his remarks while reporting on mill tests of gin-damaged cotton, part of which were conducted at Joanna.

News in Brief

Nylon Has 38% of Tire Market. Nylon upped its share of the tire market to 38% in the first half of



1958, from 29% a year earlier, the Du Pont Co. claims. Usage of

Labor-Management News

Elections. Employees at Du Pont's Chattanooga, Tenn., nylon plant have rejected representation by the Textile Workers Union of America by a vote of 1,134 to 535. Election was a runoff of one held earlier, in which TWUA got 756 votes, Chatttanooga Nylon Employes Council Corp. 265, and 639 voters wanted no union. * * * Workers at Ounegan Woolen Mills, Inc., Old Town, Me., voted 88 to 60 against representation by TWUA. * * * TWUA victories were scored at Morgan Dyeing & Bleaching Co., Cleveland, O. [but see p. 197]; Janesville Cotton Mills, Carthage and Norwalk, O.; Burrows Textile Co., Ltd., Guelph, Ont.; Best Dyeing & Finishing Co., Elizabeth, N. J.; and Chopak Fabrics, Inc., Williamsport, Pa.

New Union Pacts. After a six-week strike and a union attempt to instigate a consumer boycott of the company's products, Hanes Hosiery Mills Co., Winston-Salem, N. C., has granted an across-the-board wage increase of seven cents an hour to about 3,600 employees. * * * Cone Mills Corp., has signed a one-year contract renewal with employees at its White Oak plant, Greensboro, N. C. * * * Print shop employees at Golden Belt Mfg. Co., Durham, N. C., have won wage increases ranging from six to eleven cents. * * * Contract renewal with TWUA at Flexnit Co., Elizabeth, N. J., includes five-cent-an-hour increase. * * * Wage increases at mills in Philadelphia, Pa.: Anchor Dyeing & Finishing Co., Inc., five cents; Atlas Fabrics Corp., five cents; Caledonian Dye Works, five to eight cents; and Frank P. Mita & Co., five cents.

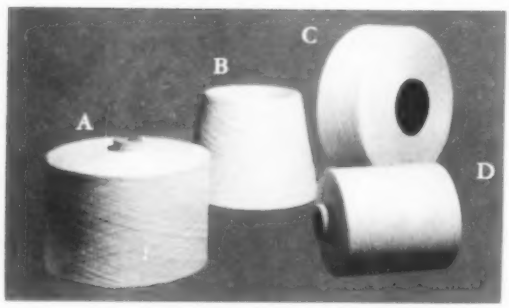
Probe Fiber Prices—TWUA. In presenting its plan for controls over the economy to prevent inflation, Textile Workers Union of America has suggested to the Joint Congressional Committee on the Economic Report that an investigation into the pricing history of the noncellulosic fibers would be a good starting point for a Congressional inquiry. TWUA particularly singled out the Du Pont Co. in its suggestion.

NLRB Rules Against Beacon. National Labor Relations Board has upset the findings of a trial examiner and ruled that Beacon Piece Dyeing & Finishing Co., Beacon, N. Y., refused to bargain with the Textile Workers Union of America by increasing workloads and granting a general wage increase without notice to the union. The examiner had ruled in favor of the company, since the union contract had no workload clause.

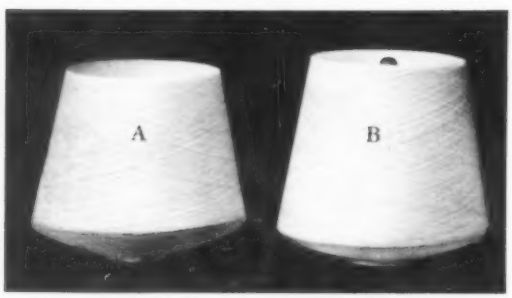
THE BIG 3 BENEFITS

Flexibility
Economy
Quality

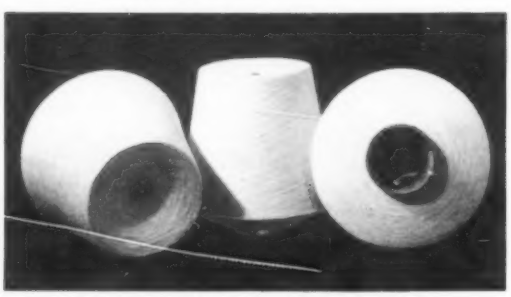
They're Yours with the FOSTER MODEL 102



A — Warping cone
B — Knitting cone
C — Short traverse cheese
D — Dye package



A — 6″ traverse cone. B — 7″ traverse cone holding 10% more yarn.



Top, side and bottom of Model 102 knitting cone, showing convex base, perfect shape and uniform wind.

Flexibility— Will handle any count (except coarsest) or type of spun yarn — soft twist as well as hard twist • Any angle of wind from 9° to 18° • Any taper commonly used • Knitting cones, warping cones, dye packages, or short traverse cheeses (when machine is properly equipped) • Conditioned yarn as well as dry yarn — even dye packages which are damp in the middle • Density of packages easily regulated.

Economy— Operating cost ⅓ less than that of obsolete machines because of high winding speeds, self threading tension devices, easy doffing (package holder swings out), empty bobbin conveyor discharging into standard size truck, 7″ traverse packages (if specified) holding 10% more yarn, negligible repair costs (as low as $10 per yr. per 100 spindles), low maintenance (any competent fixer can take care of it).

Quality—The Foster Open Wind Cone is standard for the knitting industry • Automatic inspection of yarn through slub catching attachment • Any degree of yarn conditioning desired • Convex base cone prevents underwinding and nipping • Ribbon breaker (originated by Foster) prevents ribbon wind • Idler shell on drum prevents chafing • Adjustable angle of wind assures properly wound cones that will hold their shape in transit and deliver efficiently at knitting machine • Minimum tension on soft twist yarns minimizes breakage.

SEND FOR BULLETIN A-95-A giving complete details

FOSTER MACHINE COMPANY

A Yarn Winder for Every Purpose

Westfield, Massachusetts, U. S. A.

Southern Office—Johnston Bldg., Charlotte, N. C. • Canadian Representative—Ross Whitehead & Co. Ltd., 1475 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ontario • European Representative—Muschamp Textile Machinery Ltd., Keb Lane Bardsley, Oldham, England.

nylon in tire cord and fabric was 42,166,000 pounds in the first half of this year, according to government figures, while rayon consumption was 116,115,000 pounds. Du Pont figures that one pound of nylon replaces 1.7 pounds of rayon, hence the figure of 38%. The spokesman added that nylon now goes into about half of all replacement tires, but that rayon has all but a tiny fraction of original equipment tires.

Philippines to Ban Cotton. Imports of cotton fabrics into the Republic of the Philippines will be completely banned by 1961, according to a three-year plan en-

News in Brief

Merchandising Notes

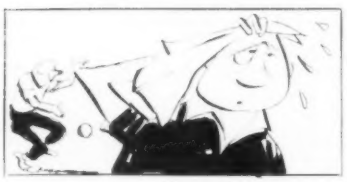
American Carpet Institute, Inc., is running four-color pages in six leading consumer magazines, featuring the "variety and value of today's carpets and rugs." Readers are invited to send for a copy of the Institute's booklet, "How to Buy Your Rugs and Carpets."

Burlington Men's Wear Fabrics Co., McCampbell & Co., and **Spinco Fabrics, Inc.,** are offering fabrics with urethane foam interlinings laminated to them.

American Cyanamid Co. is promoting its vat dyes with a booklet, "It Pays to Know These Facts About Vat Dyes," written for retailers and sales personnel.

Cannon Mills, Inc., and **Pepperell Mfg. Co.** are test marketing sheets and pillow cases containing 25% Taslan textured yarn. They are said to be quick drying and to require little or no ironing.

Chicopee Mfg. Corp. is marketing nonwoven towels in more



than 7,000 bowling alleys, through American Machine & Foundry Co.

Eastman Chemical Products, Inc., has launched its Kodel polyester fiber with magazine, newspaper, and TV advertising to the trade and to consumers. **Burlington Industries** is using the fiber in blends with wool and with rayon and acrylic fibers. **Manhattan Shirt Co.** has introduced a line of shirts, pajamas, and other garments of 50% Kodel, 50% cotton.

Hightstown Rug Co. is now

Textile winners in the 3rd Annual National Flexible Packaging Competition: 1—Morgan Mills, Inc. 2—Bibb Mfg. Co. 3—Jonesville Products Co. 4—Textile Mills Co. 5—Blue Swan Mills. 6—J. P. Stevens & Co.

mothproofing all its wool and part-wool carpets and rugs, and is guaranteeing the treatment for the life of the fabric.

Buckland Fabrics has introduced a baseball uniform flannel

of 65% Acrilan, 20% rayon, and 15% nylon.

National Association of Hosiery Manufacturers warns its members that a few store buyers will use supposed color defects or wrong color as an excuse to create a perfect hosiery inventory situation for the store at the expense of the mill. Says NAHM, "To indulge them is too expensive for most of us."

National Institute of Drycleaning has advised that most of its members will charge higher prices for drycleaning the currently popular looped and long brushed mohair fabrics, since the looped type is vulnerable to pulling and snagging, and the brushed type has a tendency to ball up and mat.

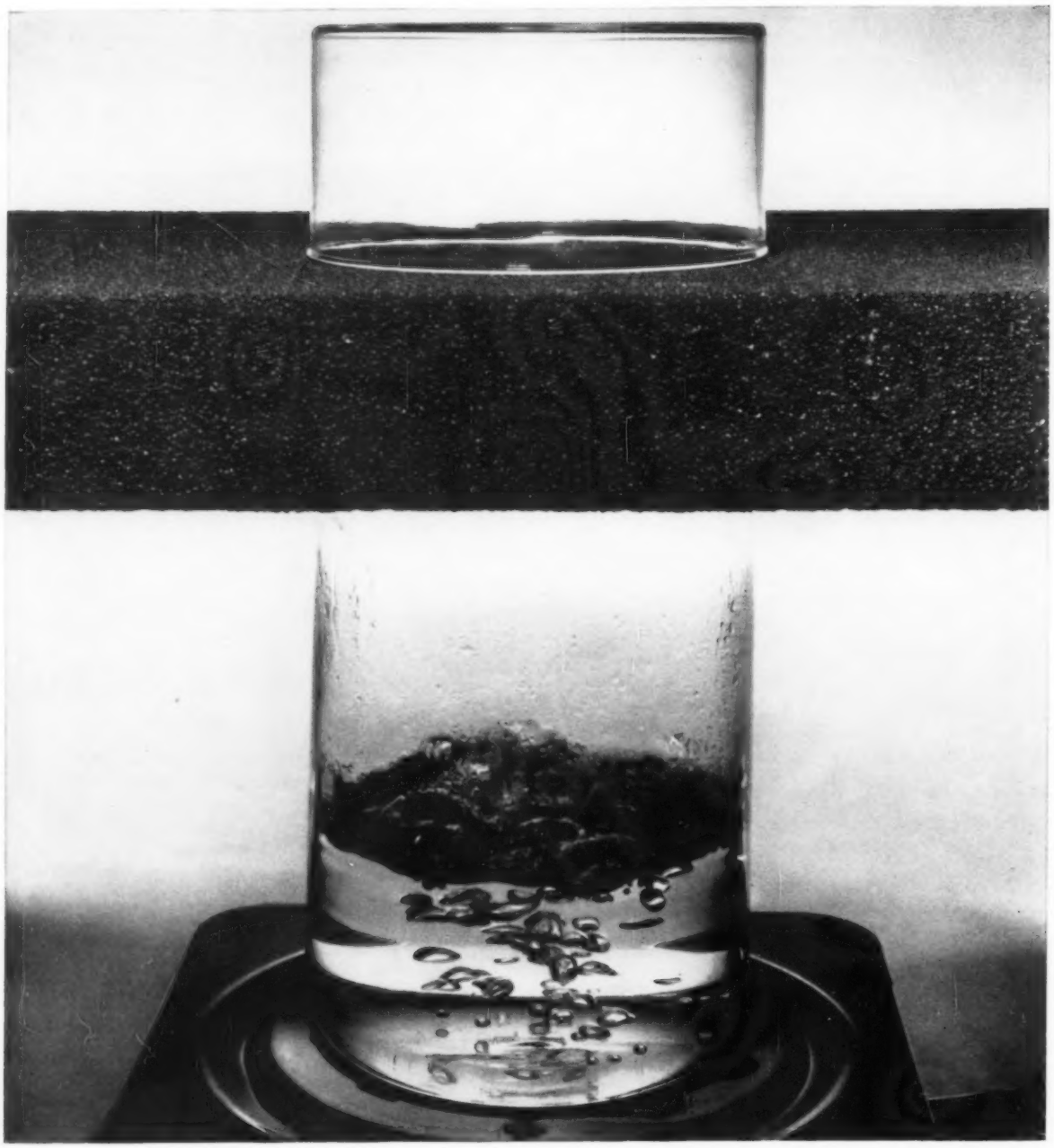
Charles Ulmer, Inc., manufacturer of sails and boating equipment, is making a two-ply blanket, with a layer of dynel on one side and a layer of vinyl on the other, for boating use.

Technical Textiles, Inc., is showing what is claimed to be the first color-fast, all-polyethylene automobile seat covers.

Wool Bureau, Inc., will move its headquarters to larger offices at 360 Lexington Ave., New York, at the beginning of 1959. It will occupy the entire eleventh floor of the building, with about 11,000 square feet of space.

National Retail Merchants Association reports that the consensus of 200 merchants from all over the country who attended a recent Retail Clinic was that 1958 Christmas sales will exceed those of 1957 by four to five per cent. A majority of the retailers reported 1958 sales better than last

year, with soft goods, particularly women's and children's wear, pacing the field.



... always an insulation investment; never an insulating expense

FOAMGLAS® IS VAPOR-PROOF

Water vapor is the biggest threat to any insulation's thermal performance. It is present in nearly every situation requiring thermal insulation. Most insulations absorb vapor. When they do, the vapor can condense within the material . . . and turn the insulation into a conductor of heat. Eliminate this threat. Use Pittsburgh Corning FOAMGLAS. Its sealed glass cells can never absorb or transmit vapor (see above) . . . thus guaranteeing long lasting insulating value that never fades from its original high level. There's still more to this insulation investment story. FOAMGLAS is dimensionally stable . . . can't burn . . . unusually strong . . . acid-proof . . . vermin-proof . . . easy, economical to handle and install. Write for our latest literature. PC Glass Blocks are another outstanding building product of Pittsburgh Corning Corporation.

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dorsed by the National Economic Council. However, sources in this country who are familiar with the Philippine textile industry doubt that it can completely provide for the needs of the local market in less than 10 years.

Textile Equipment Expenditures Continue Drop. Expenditures for new plant and equipment by the textile industry were expected to be $56 million in the last quarter of 1958, the U. S. Department of Commerce esti-

mates. This compares with $90 million for the same period of last year, and continues the downward spiral which began in 1957. For the full year 1958, the industry is expected to spend $264 million on expansion and modernization, compared with $408 million in 1957 and $465 million in 1956.

Safety Program Pays Off. Safety statistics from the Du Pont Co. shows that the company's safety program is having tangible results off the job as well as on. During the first six months of this

year, Du Pont's 90,000 employees had time-lost injuries while away from work at the rate of 1,720 per 100,000, or about one-third the rate of 4,492 for the population as a whole. Off-job fatalities were 16 per 100,000 for Du Pont employees, 47 for the U. S. average.

Asia Largest Buyer of Japanese Cotton Texiles. A report from the Japan-U. S. Textile Information Service indicates that Asia received 89 per cent of Japanese cotton yarn during the first four months of 1958, whereas the United States received four thousandths of one per cent of the total. Asiatic countries also led in purchase of Japanese cotton cloth with 52 per cent of the total. According to the report, 12,749,071 pounds of cotton yarn and 572,878,850 sq yd of cotton cloth were exported by Japan from January to May.

Fiber Raw Material to Europe. Monsanto Chemical Co. has begun shipments of acrylonitrile from Texas City via Rotterdam to Coleraine, Northern Ireland, where it will be used by Chemstrand, Ltd., in the manufacture of Acrilan.

Pineapple Fiber for Sacks. The

(Continued on page 67)

News in Brief

TIME TO SCRAPE HULLS—

IF any barnacles of obsolete or inadequate productive facilities are left in your plant, the time has come to drydock your ship of business.

The tide is flowing in, definitely, if perhaps, slowly.

Competition is afloat, but the prize and the profit go to those who sail swiftest—those with smooth hulls and spread sails.

Time to scrape hulls.

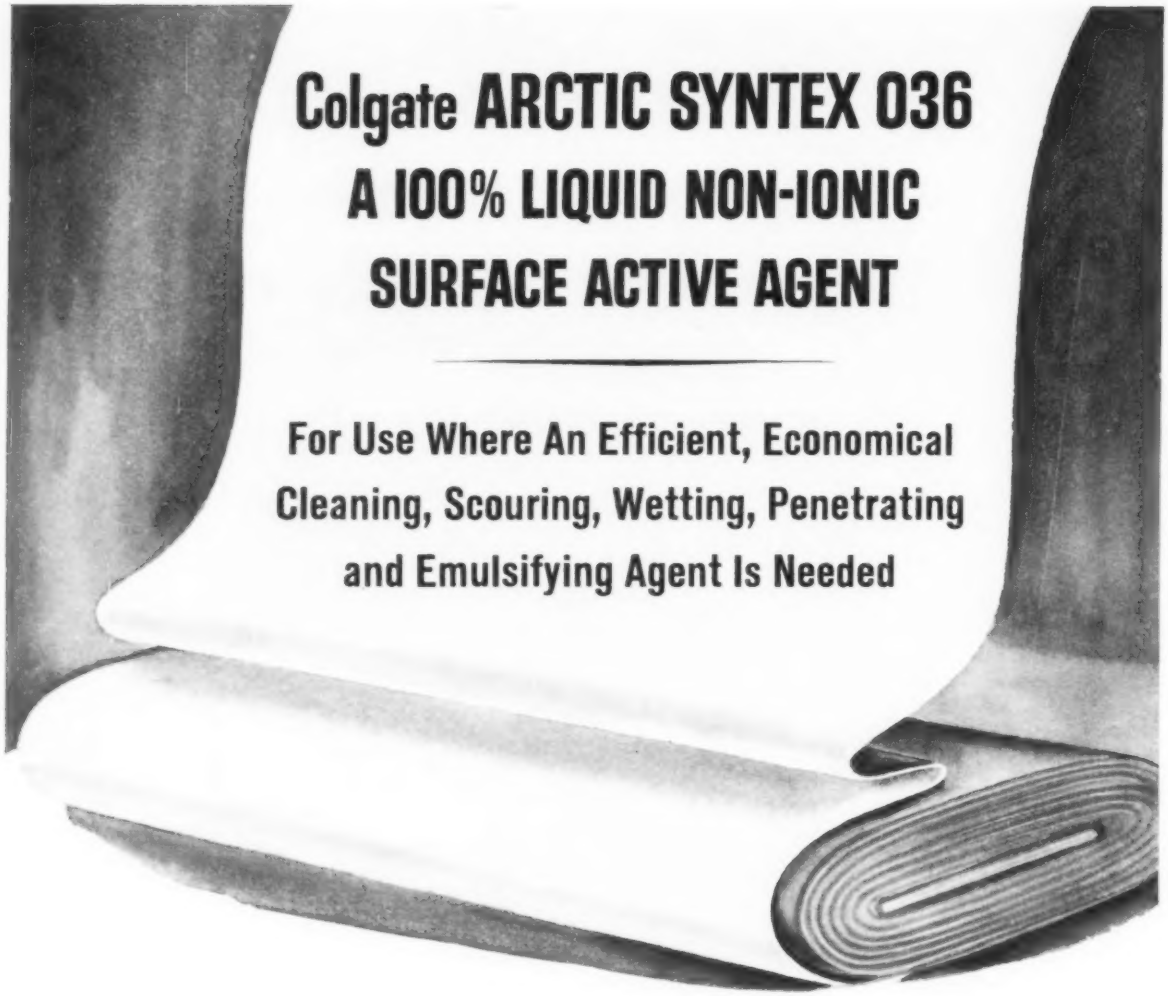
THIS MESSAGE WHICH FIRST APPEARED A QUARTER CENTURY AGO IS AS PERTINENT TODAY—FOR IT IS AGAIN A GOOD TIME TO SCRAPE THE HULLS OF YOUR SHIP OF BUSINESS.

J. E. SIRRINE COMPANY • Greenville, South Carolina

Engineers Since 1902 — A DEPARTMENTALIZED ENGINEERING ORGANIZATION SERVING • BUSINESS • COMMERCE • INDUSTRY

Colgate ARCTIC SYNTEX 036
A 100% LIQUID NON-IONIC SURFACE ACTIVE AGENT

For Use Where An Efficient, Economical Cleaning, Scouring, Wetting, Penetrating and Emulsifying Agent Is Needed



Compatible with anionic, cationic and non-ionic chemical substances, ARCTIC SYNTEX 036 is not inactivated by acids, alkalies, oxidizing or reducing agents; or by most organic ions.

CHEMICAL ANALYSIS

	Per cent as received
Active Ingredient	99+
Moisture	0.5 max.
Ash Content	0.1 max.

STABILITY

Hard Water	Unaffected
Metal Salts	Unaffected
Alkalies	Unaffected
Acids	Unaffected
Oxidizing & Reducing Agents	Unaffected

Stable for long periods at high temperatures. Will not form salts with metal ions. Very effective at low concentrations. Stable and effective in both hard and soft water.

RECOMMENDED

For Use In Textile Processes Or Compounds:

(1) Where emulsification and removal of oil and grease are desired. **(2)** In acid or alkaline solutions where other surface active agents may be inactivated. **(3)** In hard water or solutions of metal salts. **(4)** In combination with other anionic and cationic agents and other surface active or nonsurface active agents.

More Technical Service Available!

Our enlarged Technical Service staff will be happy to help you solve your soap and synthetic detergent application problems. Write the Colgate-Palmolive Company Associated Products Dept.

COLGATE-PALMOLIVE COMPANY

300 Park Ave., N.Y. 22, N.Y.

AN EXECUTIVE Views

THE NEWS IN TEXTILES

Why do trained men leave textiles?

In the July issue of TEXTILE INDUSTRIES *appeared a letter from a former mill superintendent, a textile school graduate of nine years ago, who has left the industry for another and completely unrelated field. He stated the case for the viewpoint that trained men leave the textile industry because of the failings and shortsightedness of top management in the industry.*

The following comments were made by an old-timer—a superintendent with more than a generation of textile experience.—The Editors.

► The letter in the July issue contained a lot of truth; it is not to be overlooked as a mere gripe or letting off of steam. Top management *is* responsible to a large degree for the conditions the writer of the letter was so worked up about.

This young man, who within eight years advanced to a superintendency, had done very well. Unless such a textile school graduate has the inside track, several members of the supervisory force die, or he is a member of the family which owns the mill, such a rapid rise seldom happens.

REWARDS aren't easy to come by in the shrinking cotton textile industry. Overproduction (or underconsumption, if you prefer), plus the competition from low-labor-cost countries, coupled with the situation whereby the price of cotton is set in Washington rather than in the market place, have made this field anything but attractive to a young man considering a career.

In the face of these outside conditions, it is still my opinion that some of the problems of the textile industry are those for which management has only itself to thank. Going back to my early years in the industry, I could cite a number of instances in which an initial investment in five figures a few years before had, without any additional capital invested, grown to have a net worth of $20,000,000 or more. And during this period the records show 20% cash dividends, 100% stock dividends, and similar evidence of rosy profit pictures.

But while such profits were accruing to the owners, the employees were poorly clad, improperly fed, and worse housed. Workers wore a pair of overalls on the coldest days—that's all they had, or could afford. These conditions were common—were the rule—within many a living memory.

Men in supervisory positions were better off materially, but worked under constant pressure, with an ax always poised above their necks. At one mill with which I am familiar, 22 overseers and superintendents came and went in three and a half years.

As the author of the letter said, responsibility is often given but credit and salary are not. The ghost of the bad old days still haunts many a mill.

THE TEXTILE INDUSTRY is just as moribund as top management makes it. Yes, foreign competition hurts, but it isn't—or shouldn't be—crippling. Our marketing system is desperately sick; why should a difference of one-eighth of a cent a yard mean the difference between profit and loss to the mill, when a man's shirt made from the fabric sells for four dollars, five dollars, or more?

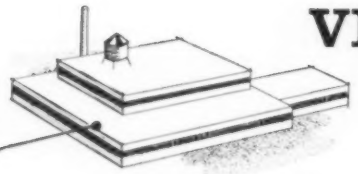
Perhaps indicative of the degree of foresightedness of too many in our industry is the fact that the top chemical manufacturing firm in this country spends more for research than does the whole textile industry.

Yes, the textile industry is often a whipping boy for political and economic interests with their own axes to grind, but it is also the victim of the failures of its own top management. And that is a major reason why young men like the writer of the "adieu to the textile industry" leave textiles—and why textile school enrollment continues to drop.

VETERAN SUPERINTENDENT

37 NEW ITEMS SHOWN IN GREENVILLE

and now commercially available are described in the "New Product Parade" section of this issue (pages 149-170). And more are to come in January. Also, the January issue will contain your 1958 Index of TEXTILE INDUSTRIES articles.



VICTOR RING TRAVELER MOVES SOUTH

VICTOR RING TRAVELER manufacturing facilities have been transferred from Providence, R. I., to Easley, S. C., near Greenville. All departments are now in full production at the new location.

As announced in September, Victor's Southern office and stockroom was previously moved to White Horse Road, Greenville, S. C. All Victor office operations are now being conducted from this new location under the direction of Alfred L. Landau, Assistant General Manager of Saco-Lowell Replacement Parts Division.

Victor Traveler production is now logically centered in the area of greatest demand, permitting still better service to Southern mills. Victor service to New England will continue in full extent and efficiency.

All Victor customers will benefit from product and service improvements made possible by the expanded manufacturing space, new production equipment, and better facilities for quality control and research.

For complete information, call your nearest Victor Service Engineer.

FULL-SCALE VICTOR SERVICE TO NEW ENGLAND MILLS

Prompt deliveries from regional stocks

Victor's Eastern representatives will maintain unlimited service to all mills in the area. Delivery schedules to fit all needs will be met from full stocks conveniently located at Biddeford, Maine.

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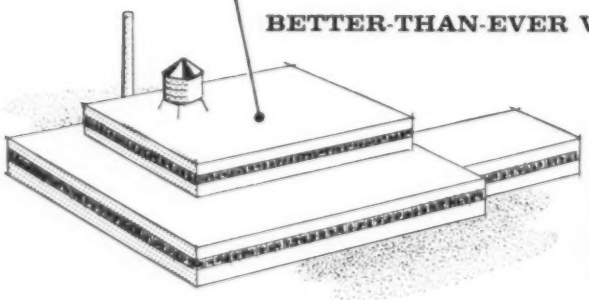
VErnon 9-4652

Eastern Service Engineers

BETTER-THAN-EVER VICTOR SERVICE TO SOUTHERN MILLS



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News in Brief

(Continued from page 63)

Union of South Africa has announced plans to use pineapple fiber for sacks. The Union is said to be the first country to solve the problem of extracting fiber from pineapple leaves by machinery.

Nine New Students at ITT. Nine first-year students have registered for graduate study at the Institute of Textile Technology, Charlottesville, Va.; the student body totals fifteen.

Textile Wages to Rise—Erwin. William J. Erwin recently stated that he is "convinced we will have an increase in textile wages ultimately," and implied that it might come some time next year, although he said he couldn't foresee just when. "I don't think textile wages can be too far behind other industries," such as autos and steel, he said, noting that the next Congress may raise the minimum wage to $1.25, putting upward pressure on textile wages. Last general increase was in October, 1956, when southern mill owners posted 10¢/hour increase.

LTI Accreditation Renewed. Engineering curricula at Lowell Technological Institute have again been accredited by Engineers Council for Professional Development.

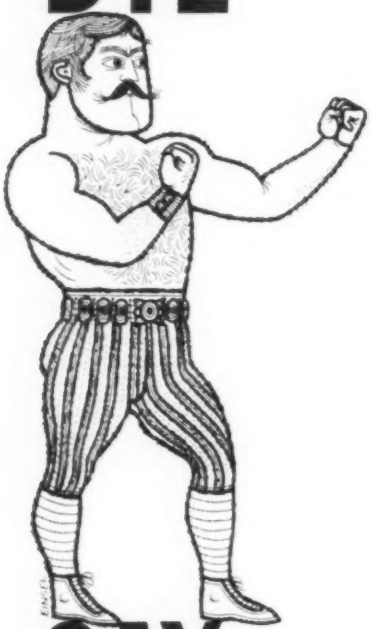
KAE Off to Good Start. The three associations sponsoring the Knitting Arts Exhibition, to be held in Atlantic City's Auditorium, May 4-8, 1959, report that contracts for over 500 booths—more than 90% of the space sold for the 1957 show—have been signed.

Tufteds Up. Shipments of tufted textiles came to $171.1 million in the first half of 1958, compared with $168.8 million during the similar period of 1957.

THE EDITORS
CIRCULATION REPRESENTATIVES
BUSINESS REPRESENTATIVES

DATE		EVENT	LOCATION
Dec.	1-5	National Exposition of Power and Mechanical Engineering	Coliseum New York City
	1-3	Soil and Crop Science Society of Florida annual meeting	Hotel Soreno St. Petersburg, Fla.
	4	Rhode Island Section AATCC annual meeting	Johnson's Hummocks Grille Providence, R. I.
	5	Niagara Frontier Section AATCC	Buffalo, N. Y.
	5	Northern New England Section AATCC	Hotel Vendome Boston, Mass.
	5	Western New England Section AATCC	Rapp's Restaurant Shelton, Conn.
	6	Piedmont Division STA, discussion meeting	Johnston Memorial YMCA Charlotte, N. C.
	6	Southeastern Section AATCC	Atlanta Athletic Club Atlanta, Ga.
	13	Canadian ATCC (Quebec Section)	McGill University Montreal, Can.
		1959	
Jan.	16	Hudson Mohawk Section AATCC	Jack's Restaurant Albany, N. Y.
	24	Piedmont Section AATCC	Poinsett Hotel Greenville, S. C.
	26-29	Plant Maintenance & Engineering Show	Public Auditorium Cleveland, Ohio
	26-29	International Heating & Air Conditioning Exposition	Convention Hall Philadelphia, Pa.
Feb.	18-19	Chemical Market Research Association (subject: chemicals for the textile industry).	Dinkler Plaza Hotel Atlanta, Ga.
Mar.	19-21	American Cotton Manufacturers Institute annual convention	Palm Beach Biltmore Palm Beach, Fla.
	26	Textile Quality Control Association	N. C. State College Raleigh, N. C.
Apr.	9-11	Alabama Textile Manufacturers Association annual convention	Hotel Buena Vista Biloxi, Miss.
	28-29	Institute of Textile Technology technical advisory committee and board of trustees	I. T. T. Charlottesville, Va.
	29-30	Fiber Society, Inc., meeting	Fontana Village, N. C.
May	4-8	Knitting Arts Exposition	The Auditorium Atlantic City, N. J.
	5	Underwear Institute annual meeting	Hotel Traymore Atlantic City, N. J.
	8-12	Tufted Textile Manufacturers Association annual convention	Aboard Cruiser "Arosa Sun" from Savannah, Ga.
	12-15	Textile Institute annual conference	Scarborough, England
	12-14	Cotton Research Clinic	Grove Park Inn Asheville, N. C.
	18-23	National Cotton Week	
Sept.	10-21	3rd International Exposition of Textile Machinery	Samples Fair Grounds Milan, Italy
Oct.	7	Chemical Finishing Conference	Statler-Hilton Washington, D. C.
	8-10	AATCC National Convention	Sheraton Park and Shoreham Hotels Washington, D. C.
Nov.	17-20	Packaging Machinery Manufacturers Institute Show and Forum	Coliseum and Hotel Statler New York City

NEVER SAY DYE



SAY BLEND WITH COURTAULDS COLORAY®

TO COLOR COTTON FABRIC the new-fashioned way, you blend with Courtaulds' color fiber Coloray. Result: the most colorfast fabrics in the world! No fading problems even for automatic wash-and-wear. No dyeing process whatsoever! Beautiful color comes with Coloray and stays and stays in blends with natural fibers like cotton and all synthetics too. Beyond wonderful color, what does Coloray do for cotton? Makes it longer-wearing, finer-looking. Gives it fresh new styling. Insures the kind of performance that calls for encores from customers. From every angle, it's smart to blend with Coloray!

COURTAULDS
COLORAY®
Solution-dyed rayon fiber with Captive Color..."Can't Escape!"

For further information on new fabric development and Coloray blends now available, write
COURTAULDS (ALABAMA) INC., *first name in man-made fiber, first name in solution-dyeing,* 600 Fifth Ave., New York 20 • Greensboro, N.C. • LeMoyne Plant, Mobile, Alabama

SHORTER DYEING CYCLES: FINER FABRICS!

National
LANAMID®
Premetalized Dyes!

When you want to protect the hand . . . preserve surface effects . . . or up-grade the quality of your fabrics—it's wise to choose your dyes from the new, neutral dyeing LANAMID range.

They give you maximum all-around fastness on wool, silk, nylon and modified acrylics . . . *without extended processing!* Inherent fiber characteristics are retained and substantial dyeing time is saved.

LANAMID Dyes exhaust smoothly to produce extremely level results even on tightly woven piece goods. Since they are non-selective, LANAMIDS give uniform coverage of varying grades of wool, free of skitteriness.

There are 16 dyes presently in the range . . . and more on the way. With surface effects and textures getting renewed attention, you will want to be fully informed on the LANAMIDS. Your National Aniline representative will gladly furnish shade card and samples.

Allied Chemical

NATIONAL ANILINE DIVISION

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Atlanta Boston Charlotte Chattanooga Chicago Greensboro
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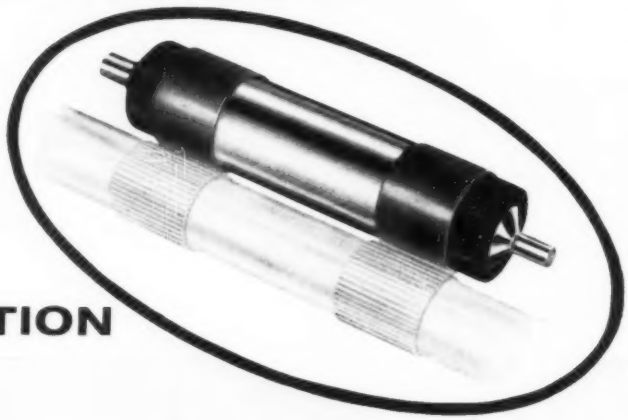
NEW MagneTrol

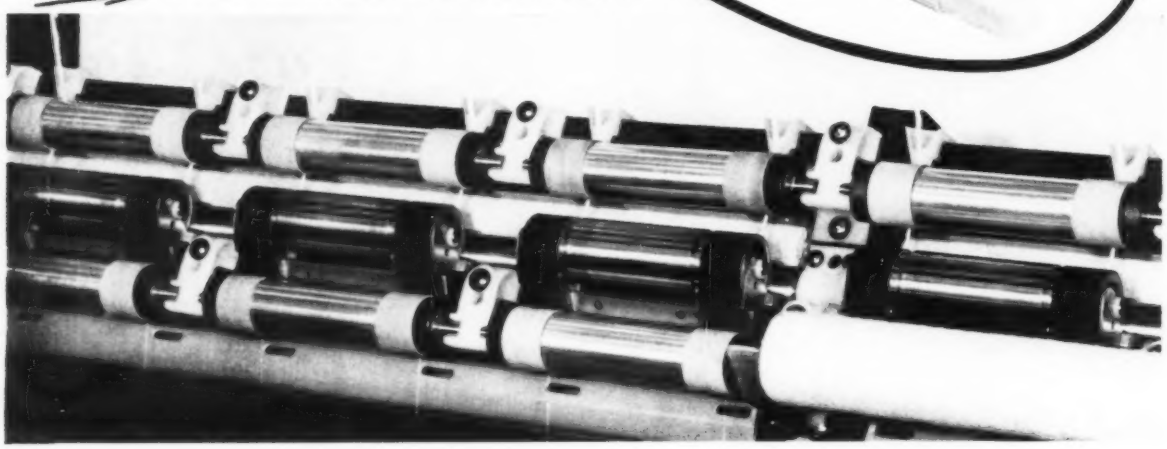
pressure system for drafting

by SACO-LOWELL

NO CAP BARS
NO SADDLES
NO STIRRUPS
NO LEVERS
NO SPRINGS
NO WEIGHTS



Plus **NO LUBRICATION**



The MagneTrol Pressure System by Saco-Lowell uses the force of magnetic attraction to produce required pressures — does away with all auxiliary equipment. Most important of all, the MAGNETROL System requires NO LUBRICATION above the roller beam.

- **NO LUBRICATION ABOVE THE BEAM**
- **EXCEEDINGLY FEW COMPONENT PARTS**
- **EFFICIENT CLEANING ACTION OF THE CLEARERS**
- **ELIMINATION OF PROBLEM OF WORN NECKS ON STEEL ROLLS**

MAKES ANY DRAFTING ELEMENT WITH MAGNETROL THE CLEANEST MOST EFFICIENT EVER DEVELOPED

THE STANDARD OF QUALITY AND PERFORMANCE Since 1813

SACO-LOWELL TEXTILE MACHINERY DIVISION
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Textile Industries
for December 1958

Protect wool in process

Application of EQ-53, a DDT emulsion, during scouring protects wool in process from insect damage for less than ¼ cent per pound

by Hamilton Laudani[1], George O. Langlais[2], and Francis E. White[3]

Exclusive

THE AMOUNT of damage done by fabric insects is known to be enormous; the cost in damaged woolens alone is estimated to be from $200 million to $1 billion in the United States each year.

Wool is constantly in danger of being attacked by insects from the time it is shorn off the sheep to the time when the woolen product is discarded. The infestation may occur while the raw wool is in storage, while being processed, while in transit, while in the wholesale or retail channels, or while in the possession of the ultimate user.

Insect damage done to the finished goods is most critical because of the high value of the finished items—a few milligrams eaten off a cashmere sweater results in a more serious loss than the same amount of feeding on the raw fiber. For this reason, the limited amount of research that has been done has been largely on the protection of finished goods.

The losses caused by insect damage to unprocessed or partially processed wool are believed to be enormous, but very little protection is provided unfinished wool while it is in storage. The measures available for this purpose are either antiquated, inadequate, or very costly. An effective, low-cost treatment is badly needed and, based on related work, it appears that it can be obtained with the use of EQ-53, a nonionic emulsifiable concentrate containing 25 per cent DDT, 10 per cent Triton X-100 (a product of Rohm and Haas Co.), and 65 per cent Sølvesso 100 (a product of Esso Standard Oil Co.).

EQ-53 was originally developed by the Savannah laboratory specifically for treating washable woolens in the home. It was then found to be ideal for use in automatic washers as well as in commercial laundries (6)[4]. Its versatility was further demonstrated when it was shown that its use was ideal for insect-proofing feathers during their processing (7). Preliminary tests with grease wool hand-washed and treated with EQ-53 in glass beakers were conducted, and these showed that the insect-proofing of wool during the scouring process was worthy of investigation.

Since the Savannah laboratory had no wool-processing machinery, another USDA agency having the necessary equipment aided in conducting the investigation. Further studies were conducted on the

[1]Stored-Product Insects Laboratory, Savannah, Ga., one of the field stations of the Stored-Product Insects Section, Biological Sciences Branch, Marketing Research Division, Agricultural Marketing Service, U. S. Department of Agriculture.

[2]Lowell Technological Institute Research Foundation, Lowell, Mass.

[3]Sheep, Goat, and Fur Animal Research Branch, Animal Husbandry Research Division, Agricultural Research Center, Beltsville, Md.

[4]Numbers in parentheses refer to literature references at the end of this article.

TABLE 1. DDT Residues on Scoured, Carded, and Combed Wool Samples*

Treatment and Lot Number	Type of Scouring	Rate of Application to Grease Wool	Percentage of DDT by Weight of Wool Present After Scouring	Carding	Combing
		fl oz lb	%	%	%
1A	Soap and soda	¼	0.13	0.14	0.11
B			.19	.12	.14
Avg.			.160	.130	.125
2A	Soap and soda	½	.27	.26	.23
B			.30	.30	.30
Avg.			.285	.280	.265
3A	Dry-cleaning	¼	.17	.14	.10
B			.13	.16	.12
Avg.			.150	.150	.110
4A	Dry-cleaning	½	.27	.16	.12
B			.55	.27	.30
Avg.			.460	.215	.210

*Processed from grease wool treated with EQ-53 in the clear rinse during scouring.

TABLE 2. Weight Loss of Wool Samples Treated With EQ-53 During the Scouring Process*

Treatment No.	Rate of Application to Grease Wool	Weight Loss of Wool Samples Scoured	Carded	Combed
	Fl oz lb	Mg	Mg	Mg
1	¼	0.27	0.59	0
2	½	.91	.73	0
3	¼	4.31	1.62	.37
4	½	3.38	1.14	0
5	Untreated	76.76	53.40	20.75

*After an exposure of 28 days to 10 black carpet beetle larvae (average of eight replications).

treatment of raw wool with EQ-53 and on the retention of DDT residue through subsequent processing stages by the Lowell Technological Institute Research Foundation, under USDA contract. The three phases of this research are described below.

Laboratory Exploratory Tests. The exploratory tests at the Savannah laboratory were conducted to determine whether scoured wool would have selective pickup for DDT when rinsed in a water bath containing EQ-53, as was found to be the case with finished woolens such as sweaters and blankets. These preliminary tests were made with 50-gram lots of grease wool, scoured successively in four two-liter beakers, containing one liter of perchloroethylene, or one liter of perchloroethylene, two grams of Triton X-100 in one liter of water at 110-120 F, and one liter of water at 110-120 F, respectively.

Two series of four lots each were treated with EQ-53, one series at ¼ fl oz per lb of grease wool and the other at ½ fl oz per lb. The EQ-53 was added to the fourth beaker just before the wool.

Samples from each lot were analyzed chemically (1), and biological evaluations were conducted (2) by exposing the samples for 28 days to larvae of the black carpet beetle.

After exposure, the wool samples were inspected visually and weighed. Where there was no damage visible, resistance to insect damage was considered satisfactory if the average loss of weight was not more than 8 milligrams, provided that weight loss for an untreated control was 30 milligrams or more.

The chemical analyses showed that the scoured wool treated with EQ-53 had a selective pickup for the DDT. The average deposit on the samples treated with ¼ oz of EQ-53 was 0.265 per cent of DDT and 0.395 per cent with the ½-oz treatment. The wet pickup was approximately 2 grams of water for every gram of scoured wool. The theoretical DDT deposits based on straight wet pickup for the ¼- and ½-oz treatments, therefore, would have been 0.012 and 0.024 per cent, respectively, but the wool treated with EQ-53 had approximately 21 and 16 times more DDT than the theoretical.

The value of the treatment was further shown by the results obtained in the biological tests. None of the treated samples showed any damage, whereas the untreated samples were very heavily damaged. The maximum weight loss of any of the treated samples was 4.1 milligrams, which was considerably below the allowable weight loss of 8 milligrams, as compared with 38 milligrams for the untreated samples.

Pilot Plant Treatments. The results of the laboratory exploratory tests were so encouraging that it was deemed advisable to repeat the studies using standard scouring procedures in pilot plant equipment, and to determine the persistence of the DDT residues on the wool after carding and combing.

Two lots of grease wool were treated with EQ-53 at ¼ and ½ fl oz in the final rinse bowl of the following scouring processes: (a) Dry-cleaning with trichloroethylene followed by a neutral scouring bath, and (b) The standard soap and soda solution method. After the wool had been scoured, treated, and dried, 15 per cent moisture and 0.5 per cent Avitex-R by weight were added. The wool was then carded, gilled, and combed. Samples taken of each lot after scouring, carding, and combing were analyzed to determine the amount of DDT residue present (1, 4), and tested biologically (2) to determine the degree of protection rendered against insect damage.

The results of these tests showed that the scoured wool treated at both rates of application in the two types of scouring baths had DDT residues which

compared favorably with those obtained in the exploratory laboratory tests. As shown in *Table 1*, an average low of 0.15 and 0.16 per cent of DDT was obtained with the two ¼-oz treatments, and 0.285 and 0.460 per cent of DDT with the two ½-oz treatments. These data also showed that the DDT deposits obtained by treating the raw wool with EQ-53 were quite persistent, in that a significant amount was retained by the wool after carding and combing.

The results of the biological tests are shown in *Table 2*. No visible insect damage was present on any of the treated samples, whereas very heavy damage was present on the untreated samples. The heaviest weight loss obtained with a treated sample was 4.31 mg, as compared with 76.76 mg for the untreated sample of the same series.

The results of the investigation conducted by the Lowell Technological Institute again showed that DDT was highly substantive towards wool. This phenomenon was so pronounced that when all of the EQ-53 was added to the rinse bowl before the entry of the wool, the first wool to enter the bowl picked up so much DDT that it influenced the deposit obtained by the rest of the lot (see *Table 3*).

Although substantivity is essential to obtain the most economical treatment, it could create a problem in obtaining uniform deposition of DDT on the wool. However, it was determined that by timing the introduction of EQ-53 with the flow of the wool through the train, it was possible to overcome this problem.

As shown in *Table 4*, there was no significant difference in the DDT deposits on the air-dried scoured wool samples treated with 1, ¾, and ½ oz of EQ-53 per lb of grease wool. However, there was a significant difference between these and the DDT deposit obtained with the ¼-oz treatment. The deposits obtained with the three high rates of application were approximately 0.8 per cent of DDT as compared with 0.346 per cent with the ¼-oz treatment.

The results of these tests were in complete accord with those of the exploratory tests. They again showed that the treatment of raw wool with EQ-53 was not only feasible but would prove very economical as well, for a satisfactory treatment could be obtained by using only ¼ oz of EQ-53 per lb of grease wool. The other very important finding was that DDT residues obtained by the treatment described were persistent to carding and combing and, therefore, the protection rendered to scoured wool was carried over to carded and combed wool. The treatment appeared so promising in these tests and its practicability so far reaching that the investigation was continued on a contract basis with the Lowell Technological Institute Research Foundation.

Studies on the Persistence of DDT Deposits. The purpose of the studies at Lowell Technological Institute was to further evaluate the practicability of the treatment, with particular emphasis on determining the persistence of the DDT residues on the stock through the normal processing of scoured wool into knitting yarn.

Five lots of 50s grease wool were processed into knitting yarns after opening and treatment in the final rinse bowl of a four-bowl scouring train with EQ-53 at the rates of ¼, ½, ¾, and 1 fl oz per lb of grease wool. A five-bowl scouring train, two ft wide, was used, in which the batch system of handling the liquor in each bowl (no counterflow) was followed. The average stock immersion in the rinse bowl liquor during scouring was two minutes. The EQ-53 was added in the final rinse bowl at the rate of 1, ¾, ½, and ¼ fl oz per lb of grease wool.

In the treatment of Lot A, the EQ-53 was diluted with an equal part of water and then added to

(Continued on page 119)

TABLE 3. DDT Deposits on Wool Samples*

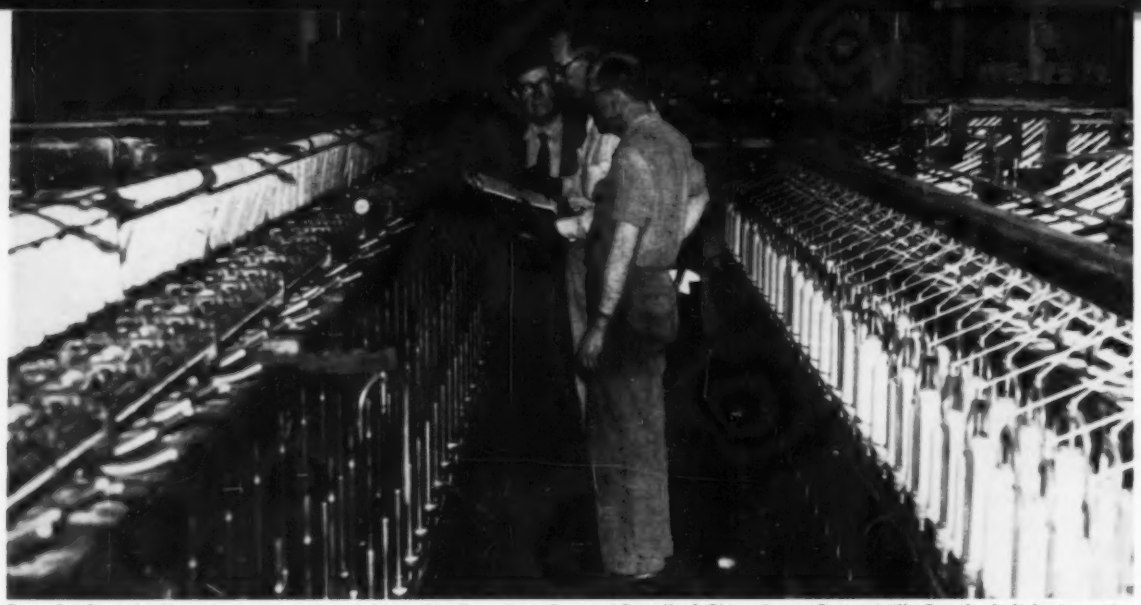
Lot Number	Rate of EQ-53 Application Fl oz lb	Time of EQ-53 Introduction	Weight of DDT on Samples Taken at Beginning %	Middle %	End %
A	1	Before rinse	2.170	0.611	0.206
B	¾	During rinse	.449	1.140	.975
C	½	During rinse	.725	.852	.500

*Taken at the beginning, middle, and end of the stock as it emerged from the rinse (average of two replications).

TABLE 4. DDT Residues on Samples Taken After Each of the Manufacturing Processes*

No.	Processing Form	EQ-53 Application Rate 1 %	¾ %	½ %	¼ %
1	Scoured, air-dried	0.793	0.852	0.839	0.346
2	Scoured, dryer-dried	.732	.187	.373	.154
3	Card sliver	.656	.266	.294	.154
4	First gilling sliver	.677	.270	.281	.181
5	Second gilling sliver	.678	.272	.266	.180
6	Combed sliver	.390	.254	.260	.165
7	First Pin-Drafting sliver	.577	.246	.256	.200
8	Second Pin-Drafting sliver	.588	.244	.272	.180
9	Third Pin-Drafting sliver	.586	.244	.238	.186
10	Roving	.588	.265	.258	.201
11	Spun yarn	.579	.265	.254	.212
12	Twisted yarn	.565	.262	.265	.187
13	Wound or coned yarn	.579	.240	.234	.187

*As reported by Lowell Technological Institute: figures are the average of two or more chemical determinations and the insecticide is expressed in percentage of the weight of the wool.



Records of overhauling play an important role in this discussion of the maintenance of a roving frame. Here, Messrs. Morrow, Stirewalt, and Russell of China Grove Cotton Mills Co. check dial micrometer reading of front roll eccentricity against maintenance records.

Help for management, overhaulers

Simple records system for maintenance and overhauling saves time, was easy to install

by Ashley B. Roberts
Assistant superintendent
China Grove Cotton Mills Co.

Exclusive

A SIMPLIFIED system for records of overhauling and maintenance takes the burden of remembering details and making "haphazard" notes off the overhauling foreman and overseer. At the same time, the system provides the superintendent with the information on each machine that he needs to supervise the overhaul maintenance, production, and quality phases of his responsibility.

A consolidated check sheet *(Fig. 1)* for use by the head overhauler is an effective guide, indicating points on each machine that must be checked and passed. Space is included to show what work was done on the overhaul by the roll shop and the machine shop, and the new parts drawn from supply. Also, space for listing total time spent by each member of the crew is provided.

A "remarks" section for comments by the supervisor of the overhauling crew and overhauling foreman or overseer is included for any unusual observations or suggestions. These maintenance data should be turned in to the superintendent's office for checking and transfer to a permanent record for each machine.

A supplementary form is provided (or incorporated into the check sheet where space is available). This form *(Fig. 2)* provides detailed information on the condition of drafting rolls. This record can be of particular value when rolls are being reworked, whether it is done in the mill machine shop or by a commercial machine shop. By putting the stand number in the center of the form, a column can be provided on each side for the dial micrometer reading at each stand on both sides of the spinning frame.

A third column on each side for a reading after correction, in case of excessive eccentricity, will provide information as to the condition of the rolls before and after overhaul. A fourth column on the extreme left and right sides of the form can provide outside-diameter checks of the roll bosses. This check is most important for reworked and new rolls.

A convenient maintenance history can be kept in loose leaf form; we use a sheet for each machine *(Fig. 3)*, with space for such information as machine description, constants, model, make, etc. The body of the sheet can provide check-off blocks for the major items that should be taken care of on schedule, such as spindles plumbed, rolls checked with dial micrometer, top rolls buffed, and any periodic lubrication schedules that are carried out in conjunction with the overhaul schedule.

Space for notes should be included on the record so that any change in the machine may be noted. Also, notes may be kept on the record of special accessories or equipment tested on the machine. An additional column for per cent variation or CV readings shows a long-range performance record of the machine.

The first page for each group of machines should provide a complete gearing diagram, accompanied by other important technical information necessary in maintaining the machine, according to our experience.

Our maintenance history system was inexpensive to install, provides all information necessary to maintain the machinery, and requires only a few minutes of time each day.

OVERHAULING RECORD

CHINA GROVE COTTON MILLS CO.

TYPE MACHINE 12X6 - FS-2 DATE 3-14

MACHINE NO. _____ DEPT. #3 Carding

CHECK LIST

- [x] Rolls Cleaned — Cleared of Nicks and Scars
- [x] Roll Necks Inspected for Wear
- [x] Roll Stands Checked for Wear
- [x] Aprons Inspected for Wear
- [x] Rolls Checked with Dial Micrometer for Eccentricity
- [x] Clearers Cleaned and Checked for Wear
- [x] Settings Checked for Specified Guage

- [ ] Beaters and Grid Bars for Condition and Settings
- [x] Bearings and Bearing Surfaces Checked for Wear and Proper Lubrication
- [x] Shafts and Studs Inspected for Wear
- [x] Machine Checked for Line and Level
- [x] All Gears Inspected for Wear
- [x] Old Oil Removed and Replaced with New
- [x] Spindles and Flyers Checked for Wear and Plumb
- [x] Knock-off Motions Checked for Proper Operation
- [x] Safety Guards and Latches Inspected for Proper Operation
- [ ] Guide and Tension Devices Checked for Grooves and Operation
- [x] Motors, Belts, Clutches & Drive Units Checked for Alignment, Wear and Proper Operation
- [x] Couplings, Keyways and Setscrews Checked for Wear or Lost Motion
- [x] Oilers, Oil Lines Cleaned and Free of Lint [grease cups]

Number of Hours Machine Out of Production 24

No.	Part	NEW PARTS USED
1	36" Oil line	
26	Aprons	
2	Front Roller Stand blocks	
1	84 T Skip Gear	

Shop Maintenance Required

1 Joint Roll Renecked.

Roll Shop

Front & Back line Top Rolls Rebuffed

Remarks

Regrooved Front & Middle Top Rolls

Section Overhauler WJR

Overhauler Foreman Red

Fig. 1. This consolidated check sheet is effective guide for the head overhauler, indicating the points on each machine that must be checked and passed.

OVERHAULING

CHINA GROVE COTTON MILLS CO.

TYPE MACHINE 12X6 FS-2 DATE 3-14

MACHINE NO. 4 MILL NO. 3

O. D. Reading .001	Corrected Reading .001	Dial Microm'r Reading .001	STAND NO.	Dial Microm'r Reading .001	Corrected Reading .001	O. D Reading .001
			1	1		
			2	1		
			3	2		
			4	1		
			5	1		
			6	2		
			7	3		
			8	2		
			9	1		
			10	1		
			11	2		
			12	1		
			13	2		
			14	2		
			15	5	2	
			16	1		
			17	1		
			18	2		
			19	1		
			20	0		
			21	1		
			22	1		
			23	2		
			24	1		

Remarks:

Section Overhauler WJR

Overhauling Foreman Red

Fig. 2. Stand column is in middle of roll record to simplify entries when form is used for spinning.

Fig. 3. China Grove Cotton Mills keep maintenance history in convenient loose-leaf form, with separate sheet for records of each frame.

FORM 109 500 3 58 CJP

MAINTENANCE HISTORY

ROVING — SPINNING — TWISTING

Machine No. _____ Front Draft Const. _____ Spindle Speed _____

Type _____ Break Draft Const. _____ F. R. Speed _____

Make _____ Total Draft Const. _____ Traveler Speed _____

Model _____ Other _____ Ring Diameter _____ Traverse _____

Serial No. _____ Guage _____

Date	Periodic Lub.						Rolls Buf'd			Insp. & Cleaned						Remarks
	F. Roll	M. Roll	B. Roll	Spindles	Cylinders	I. Pulleys	Front	Middle	Back	Steel Rolls	Aprons	Bearings	End Gbll/100	% C V	% C V	

Among the chief seconds producers are rough, worn shuttles . . . . . .

Shaky crank arms moving the fell around . . . . . loose swords

HOW TO KEEP SECONDS

by Charles A. Little
Exclusive

MANY mill men agree that it costs the same amount of money to manufacture second grade cloth as it does to produce "firsts."

In the weave rooms of modern textile mills, increased loom speed and job loads brought on by competition and cheap imports have brought a trend to excessive seconds. The time has arrived when a well planned program must be adopted and carried out to prevent seconds.

Sources of Seconds. Seconds are commonly caused by malfunction of some motion of the loom or carelessness and neglect on the part of the weaver.

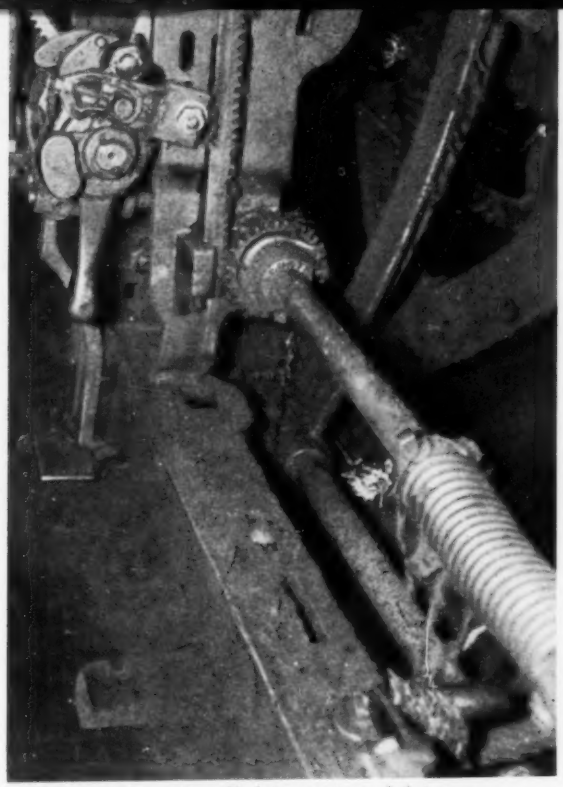
Such items as shuttles, loose swords, and rocker shaft collars, loose crankarms, improper pick and stroke settings, and a worn and badly set filling change motion are major causes of seconds in the weave room. By requiring the loom fixers to check these items in a systematic way we can readily see how seconds can be reduced by the simple expedient of preventing them.

Few items can cause as much second grade cloth as a rough, worn out shuttle, and the most common seconds they cause are broken filling, broken picks, and button hole selvages. Rough and splintered shuttles are the result of improper reed and back box alignment, pickers not parallel, improper timing and setting of the harness, and bad shuttle-boxing.

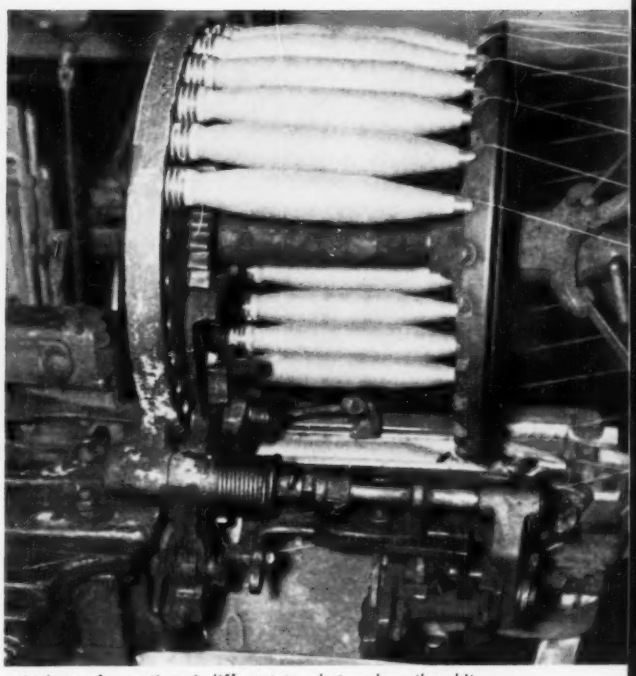
Shuttle springs, and the material used to apply tension on the filling, whether it be fur, bristles, or nylon cord, can cause filling pieces and broken picks if they are neglected. A good loom fixer can examine the shuttle and tell quite a bit about the loom's condition--if the transfer is set correctly, if the loom is out of line, if the pickers are parallel, if the harnesses are set too high, if the loom is making false changes, and many other things.

Routinely Inspect and Maintain. We believe that by checking shuttles twice a week, sanding and applying shuttle dressing to all rough places and correcting whatever causes this condition, checking the condition of the material used to apply tension to the filling, checking to see that the shuttle spring is tight and the bobbin is straight and not too high or low in the shuttle, the life of the shuttle will not only be greatly increased, but seconds caused by shuttles can be held to a minimum.

Swords and rocker shaft collars should be checked at least once a week. Loose swords and rocker shaft collars cause end play in the lay which results in thin places caused by the filling fork hitting the grate or failure of the fork to



and rocker shafts setting off chain reactions of their own . . . . . .



And transfer motions indifferent to what or how they hit . . . . . .

DOWN

A set of basic rules for the first team—

quill hauler, battery filler, weaver, fixer, and secondhand

—in the game against seconds

enter the grate properly. Other seconds that can be caused by this condition are bobbin breakouts, protector rod breakouts, wavy cloth, jerked-in filling, and mispicks caused by failure of the filling feeler to function correctly.

Crank arms and filling forks should be checked once a week. Loose crank arms cause a loom to run with a jerky motion, and some of the most common seconds so caused are thick and thin places, wavy cloth, and bobbin breakouts.

The filling forks should be checked at the same time the fixer checks the crank arms to see that they are going straight into the grate and to the correct depth.

Some More Causes of the Seconds Produced. The filling fork pin or the hole for the pin in the fork must not be worn excessively as this condition will cause thin places by the fork hitting or binding against the grate when the loom is running.

Bobbin breakouts are caused by loose crank arms, because the setting of the depth of the transfer cannot be the same and uniform with this condition existing. Instead of the new bobbin of filling being transferred into the shuttle with a smooth even motion, it is driven into the shuttle with a hard force, and control of the bobbin is lost because the tension of the shuttle spring is not great enough to hold it.

Loose crank arms also produce the same effect as the transfer not being set deep enough, but experience shows that in most instances a loose crank arm has the tendency to drive the bobbin through the shuttle.

The most common defects caused by improper setting of the pick and stroke are false changes indicated by small thin places in the cloth. A false change is caused by the shuttle feeler indicating a change with the shuttle not in the box. This condition also causes the shuttle to be scarred by the shuttle feeler tip as the shuttle enters the box.

False changes are caused either by the shuttle feeler set incorrectly or by a weak pick from the left side of the loom. A weak pick can be attributed to a number of things; the main causes are improper setting of the pick and stroke, weak picker stick, weak lug strap, pick point worn out, or a loose cam or crankshaft bearing.

The filling change motion should be inspected at least twice a month, because if it is allowed to get into a worn condition a number of seconds will be the result. The most common ones caused by the filling change motion functioning incorrectly are thin places, broken filling, jerked-in filling, and breakouts. If the starting rod and bearings are allowed to become excessively worn, shuttle feeler

"limbernecking" results.

A "limbernecking" shuttle feeler not only causes thin places and bobbin breakouts but makes it impossible for the Stafford thread cutter to operate—jerked-in filling is the result. A "limbernecking" shuttle feeler causes the same seconds and produces the same effect as a false change.

Cam follower hubs and bushings, filling hooks and pins, and the bolt that holds the cloth stand to the breastbeam, should also be checked when inspecting the filling change motion. These parts, if allowed to become excessively worn, cause thin places and false changes.

Secondhand, Battery Filler, Weaver. Seconds such as misdraws, flats, doubles, open dents, and stringy selvages can be held to a bare minimum by a closer inspection of the cloth on the part of the weaver—some mills require weavers to inspect their cloth at least once per hour.

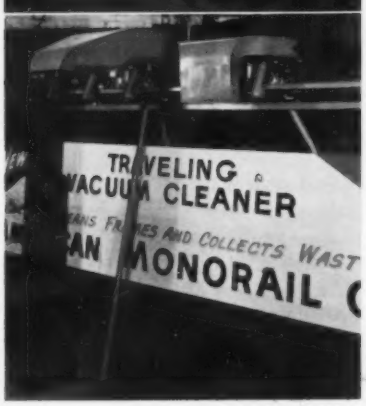
Training weavers to become quality conscious induces them automatically to inspect the cloth as they go from loom to loom in running their jobs, and this practice virtually eliminates seconds caused by carelessness and neglect.

Battery fillers should be trained and instructed to flag all looms knocking out filling, making pieces, or breaking filling. Correction of faults makes their job easier, and the battery fillers will be doing their part in the battle against seconds. The person who takes up quills should be instructed to flag all looms which are skinning quills because looms that are skinning quills are producing cloth that will have a break or mispick every time a change of filling takes place.

The secondhand is required in most modern mills to inspect the cloth at least once during his shift. He can also tell by observation just how well the loom fixers and weavers are carrying out their assignments in the fight against seconds. He should be on the lookout for such defects as wavy cloth, reedy cloth, misdraws, flats, doubles, jerk-ins, stringy selvages. By glancing at the battery and quill, he can determine whether a loom is breaking filling, skinning quills, bouncing shuttles, or whether forks are hitting grates. All of this can be checked quicker than you can say it.

Just how effective the system will work depends on how well the second hand, loom fixers, weavers, battery fillers, and indirect help carry out their assignments.

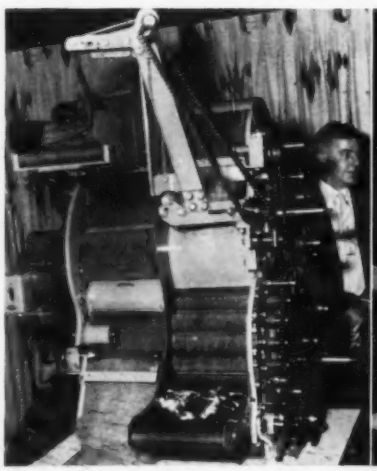
Frame vacuum cleaner, miniature woolen card soon to be available

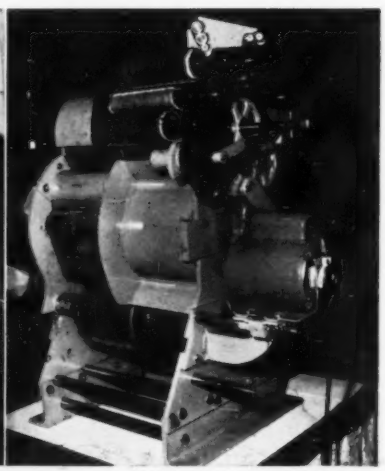


■ PICTURED in these photos which were made during the recent Southern Textile Exposition in Greenville, S. C., are two items which manufacturers said were under development at the time but would soon be commercially available:

1 (left photos). A traveling automatic vacuum cleaner for use in spinning, winding, twister, and weaving rooms was shown by The American MonoRail Co. Waste material is collected from the floor by vacuum and stored in the traveling cleaner unit. Among advantages claimed for the equipment are: less fiber in room air, less waste under frames, floor is kept continually clean, greater part of material recovered may be classed as reuseable waste.

2 (photos below). The Tuffer Blender by Howard Bros. Mfg. Co. is a miniature woolen system card for processing small quantities of fiber to determine blend proportions. A feature of the three-cylinder machine is the ease with which it may be cleaned—by simply releasing a clamp, workers and strippers swing away from the cylinders, making parts accessible for quick cleaning.





Preblending cotton

was a recent major discussion topic of S. C. mill men
They also held round tables on carding and weaving

Staff report

Joanna's Delany

Spartan Mills' Caughman

Greenwood Mills' Liner

SEVERAL hundred members of the South Carolina Division of the Southern Textile Association met at Clemson College, S. C., recently and heard J. L. Delany of Joanna Cotton Mills speak on preblending of cotton.

Gin damage to high grade bales has brought the choice of buying high grade bales to maintain color standards, or buying lower grades for better running work, or providing a mixture to give good operations, low waste, and lower cost.

The average mill does not have space to put down enough bales to blend sufficiently in the opening room. Nor is the conventional opener line designed for this amount of blending work, Mr. Delany said.

In preblending, a large number of bales are laid down and fed through blender openers onto a feed table, which feeds them into automatic feeder units for further blending before baling. At the mill, 24 of these bales fed in a mix at opening result in a blend having a ratio of the original number of bales (say 100) times the 24 laid down in opening, or a ratio of 2,400 to 1.

Preblending costs may be figured on the basis of the production of an average opener-blender, which runs about 300 pounds an hour with a 500-pound maximum. Ten of these would feed 5,000 pounds per hour or 1,200 bales, running five days per week. The labor cost with two men feeding, two men baling, and a supervisor, would run about $800 per week, or 66 cents per bale for preblending. Other possible charges would include bale handling, storage, insurance, overhead, depreciation, and machine and building investment.

Assuming 25 per cent cotton valued at 33 cents added to 75 per cent of cotton valued at 35 cents, the average price per pound would be 34.5 cents. Based on a net production of 600,000 pounds per week, the savings at ½ cent per pound would be $4,000 per week.

Bales having a slightly lower grade, with excess leaf but good color, would be suitable for the average mill if they could be adequately preblended. This is where such a large preblending unit could be made to support itself alone, not to mention the added gain of uniformly high mill performance, Mr. Delany concluded.

Carding. A discussion panel on carding was led by John Caughman of Spartan Mills, and it was generally agreed that larger packages and the new open-type creels call for more twist in roving. In one instance a change was made from 1.10 to 1.29.

All mills in the group using large cans reported spring-loaded bottoms in use, and the largest can reported in service was 18 x 42. An instance was reported wherein can trucks were used to creel large cans expediently. One mill man told of using tape to hold the cans together while pulling them on the floor.

In discussing the use of hard-point conventional wire on cards, the grinding frequency in one instance was said to be ⅓ that of conventional wire. In this mill no difference was noted in the nep count, and the stripping frequency was the same as for conventional wire.*

Weaving. Robert Liner of Greenwood Mills acted as moderator of a panel discussion on weaving, and the first subject discussed was the Unifil loom winder. One mill with 100 units in operation reported considerable labor saving on 6s to 30s single and some 150-denier filament yarn. One fixer handled 375-400 looms, with more in prospect.

The units had no effect on loom efficiency, and no special quills were required. No more problems with tension were experienced than on other equipment formerly

*For another discussion of hard-point wire, see page 95.

used, the mill spokesman indicated.

Filling bands are not likely when Unifil is used because successive quills are wound from the same cone of yarn, it was said. Breaks on transfer were a problem at first, but experience quickly brought the trouble under control. An 8-inch quill is the longest quill used on Unifil so far, and a 6¾-inch quill is the smallest quill reported used. The current trend is to smaller shuttles, smaller shed, and faster speeds, judging by comments of the mill men.

The average life of plastic shuttles was said to be two years, with more to be expected on light weaves and less on heavy weaves. No wear was noticed on shuttle backs after 18 months of service in one mill. If this trouble develops, the loom needs servicing for correction, the spokesman indicated. If the fixer does a good job of lining, no wear is likely; however, worn shuttles may be trued and kept in continuous use on X looms, one man said.

Better picker life was reported with high speed pickers, which are heavier and firmer, and a slight decrease was noted in picker life with heavy shuttles, according to experience in another mill. 178 ppm on 78-inch XD looms resulted in about two years of picker life on a 120-hour week.

Recleaned and blended cottons are not "cottons," ACMI says

Abstract*

■ DURING recent months there has been much discussion in the cotton trade regarding recleaned and/or blended cottons, arising when the eligibility of these products for export under the export sales program for raw cotton was questioned.

In order to determine the eligibility of these products under the sales program it is necessary first to place them in their proper position in the very intricate cotton merchandising system of this country. Since any alteration of this system affects every segment of the cotton trade, the assignment of these products to their proper place is a matter of equal concern to cotton producers, merchants, and mills.

IN ORDER to make clear the basic position of the mills in regard to these recleaned and/or blended cottons under the mill buying rules now in effect, this Committee has gone on record that these cottons are considered to be reginned cotton, subject to the same marketing restrictions as reginned cotton.

American-grown cotton is marketed under a unique merchandising system, developed over many years, which has proved highly successful. The success of this system is based primarily on two fundamental factors: the integrity of baled cotton as represented by a small sample, and a highly developed system of buying and selling rules which can be incorporated into standard contracts.

Throughout any bale of cotton there are certain variations caused by natural sources. From the first buyer of raw cotton to the mill superintendent who spins it, the entire cotton merchandising system is geared to the averaging of the inconsistencies inherent in an agricultural product.

A cotton buyer assumes that a bale of cotton represents a relatively homogeneous lot of fiber, grown in one locality, picked at one time, and ginned in one gin — its history is available to him if he wishes to obtain it.

For many years we have had a certain amount of cotton which can no longer be considered as a basic agricultural commodity. This includes reginned cottons, loose cotton, etc. It is a fundamental principle that all cotton products of this type are marketed as such and never confused with the basic commodity, raw cotton.

In considering the proper place of these processed cottons in the merchandising system, we have no desire to debate their relative merits, since whether they are good, bad, or indifferent is immaterial.

Bearing in mind the fundamental integrity of the raw cotton marketing system, it is obvious that recleaned and/or blended cottons cannot be considered as raw cotton. A basic premise of the cotton trade is violated by any form of cotton or cotton product which does not have the simple origins we know in raw cotton. This is no condemnation, but rather a point of accurate definition.

Cotton which has been reginned, reprocessed, recleaned, or in any other way modified after the original harvesting and ginning process is obviously going to have to be merchandised on a different basis from simple raw cotton. This is true of any raw cotton product which is comprised of all or part of various bales of cotton, regardless of the intermediate processing.

HAVING ESTABLISHED that these recleaned and/or blended cottons properly fall in the realm of *cotton products* and *not* raw cotton, we now turn to the issue which has beclouded the consideration of these products by the cotton trade.

It is obvious that the cotton export sales program was designed to alleviate the accumulated surpluses of raw cotton in government hands. The eligibility of these products under this program would be as completely irrelevant as making cotton yarns or cotton cloth eligible.

The ill-conceived and hasty action taken previously to give limited eligibility under certain conditions was an unfortunate occurrence and undoubtedly done without consideration of the basic principles of the cotton trade.

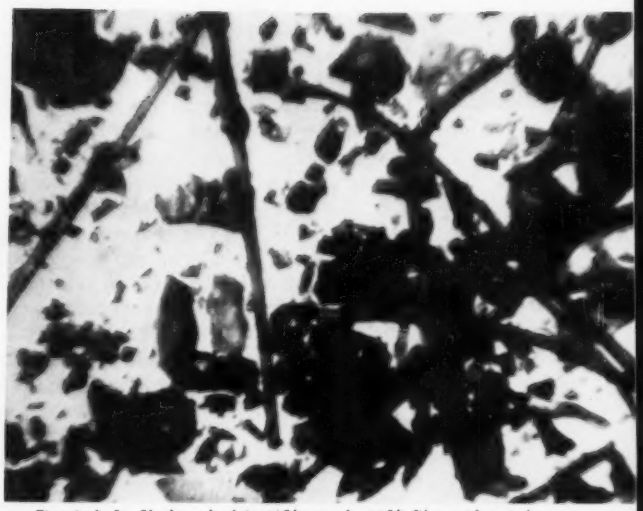
This is not to say that the firms who have developed and produced recleaned and/or blended cottons should be deprived of the privilege of competing in the export market when such a market exists for their product. In all fairness, there is no reason why they should not be eligible for export under the cotton *products* export program, which is a program correlated with the raw cotton exports sales program.

Under this program, various cotton products, including even mill wastes, are eligible for export subsidies, offsetting the advantage of foreign spinners under the program for raw cotton. It would seem completely logical that these processed cottons should be accorded the same privilege.

We regret that there has been an overtone of ill feeling in the consideration of these issues. We hold firm to the right of any individual to improve any product he sees fit and to merchandise it without hindrance. On the other hand, we feel that in any trade conducted under established rules, definitions become extremely important; and a proper definition of these products is essential to putting them into normal and orderly marketing.

*From a memorandum prepared by the Cotton Committee, American Cotton Manufacturers Institute.

How to cut shedding losses



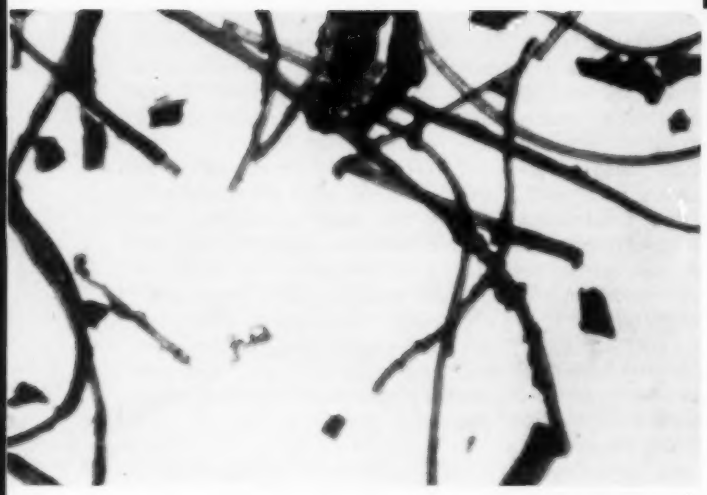


Fig. 1. Left: Slasher shed is 40% starch, 60% fiber. Above: Loom shed is 20% starch, 80% fiber. The black, irregular objects seen in these photomicrographs are loose starch particles stained with iodine. They abound in the slasher shed, while the loom shed contains very little, as verified by chemical analysis. There are very few short, broken fibers in slasher shed, many in loom shed.

Laboratory tests can be used to improve the slashing operation and minimize shedding

by Herbert C. Olsen
Supervisor, Textile Service
National Starch Products, Inc.

Exclusive

TODAY the textile industry is more competitive than ever before and the poor quality of last year's weather-damaged cotton crop, as lately reported in the press, will contribute to the intensity of this competition. A very decisive way of meeting this situation is by increasing manufacturing efficiencies, and cutting costs wherever possible.

One area in which this can be done with significant savings to the manufacturer is in shedding, specifically the improvement of the slashing operation to minimize shedding.

The main reason for minimizing shedding is to keep a higher percentage of fiber on the fabric and off the floor, thereby producing greater and superior-quality yardage at the same fiber cost.

Shedding is responsible for poor weaving, since excess shedding causes imperfections in the fabric. Breaks also result, with consequent serious loss of production time. Since fabric is sold on a weight basis and according to rigid specifications concerning weave and appearance, there is a direct relationship between shedding and the value of the woven fabric. Lost production time is, of course, always reflected in the over-all profit picture.

There have been few comprehensive scientific studies on shedding and most plant experiments have been of a "hit-or-miss," "try-this-try-that" nature. A fundamental, organized attack on this all-too-prevalent problem has long been needed, with emphasis along preventive rather than remedial lines.

This article does not attempt to cover shedding in all of its varied aspects. It is a presentation of the effect of slashing on shedding, touching only briefly on some of the other factors that are involved.

What Is Shedding? Shedding may be defined as the loss of fibrous material from the body of the yarn. Collectively it comprises fibers, size, oil, and miscellaneous wastes. It originates in sized yarns on the slasher and in the looms. Unsized filling yarns

also contribute a minor portion.

It is necessary to determine where the shed is coming from and the percentage to discover the contribution that correct sizing can make. Some tests have shown a greater percentage of fiber from the loom shedding than from the slasher.

Three Production Stages Which Influence Shedding. There are three production stages in making fabric which can influence shedding:

1) Processing preparatory to slashing
2) Slashing
3) Weaving

Preparatory Processes. In blending, carding, combing, and spinning, uniformity of blend, minimum fiber rupture, uniformity of spinning, and optimum twist lead to less shedding. If different fiber types are not blended uniformly, variations in size pick-up and varied adhesion effects between the fiber surface and the size film will result.

Fiber length and distribution, linear and cross sectional irregularities, surface friction, denier, tensile strength—all have effects on shedding, and although these factors are well known, their effects on shedding remain, for the most part, unmeasured.

Fiber and fabric requirements are generally part of the buyer's specifications and the textile manufacturer has little opportunity to change them himself. However, he can act in an advisory capacity and suggest alternatives, or he may be able to operate within the given specifications at just that point most suitable for manufacturing.

Weaving. The weaving process is the principle abrasive source of shedding. Improper or varying loom settings, uneven warp tension, low relative humidity leading to static or embrittled fiber or film, or excessive humidity resulting in soft, weak films—all are contributing factors.

Mill staff members should review preparatory and weaving processes so that optimum conditions are maintained for lowest shedding, consistent with production and quality requirements. Good statistical controls will measure reliability and importance of each factor.

Slashing. Following is a discussion of observations and findings, and suggestions offered, as a result of laboratory work carried out by research and development groups at our laboratories and at various mills throughout the country.

Reviewing all the information gathered in this study, one basic general conclusion can be drawn: It is important for mills to set up and maintain certain controlled conditions which lead to a minimum of shed. Controls should be instituted to ensure that these conditions are maintained during production runs.

Non-uniformity or not holding to these pre-established conditions will invariably produce heavy shed. Though these conditions may vary with each mill, once they have been determined and set up in a mill, and are closely controlled, they will be responsible for a minimum of shedding due to slashing.

Collection and Measurement of Shed. Shedding can be examined both microscopically and by chemical analysis. The major portion of the shed can be collected by spreading kraft paper under the slasher split rods. (The usual safe percentage of shed is about 1/10th of 1% of the yarn slashed. This much is to be expected under current manufacturing methods and anything in excess of this amount warrants investigation and corrective measures.)

Samples of loom shedding can be obtained from the bottom portion of the harness or other areas which would provide representative samples of warp shedding alone.

A microscopic examination will show broken-off fibers, but will not reveal whether they occurred in preparatory processes, in slashing, or in weaving. It is probably correct to assume that short fibers were caused by loom abrasion.

Loose flecks of starch can also be observed under the microscope; the total percentage of starch in the shed is determined chemically. A high amount indicates less fiber loss. The photographs (*Fig. 1*) show one such example from one mill.

The study of size and its effects on shedding was broken down into three categories: size preparation, size application, and size formulation. Following is a discussion of the three, with suggestions offered to overcome difficulties that may arise.

SIZE PREPARATION

Improperly prepared size can be the cause of excessive shedding.

Incomplete dispersion of the starch before cooking will give areas with uncooked granules which can be detected by microscopic examination of the cooked size. Mechanical changes in the agitator set-up or longer stirring are recommended.

Before turning on the steam in the size kettle after the usual procedure has been carried out, the mill supervisor should probe the sides and bottom of the kettle to be sure that starch is thoroughly dispersed. Improper conditions are readily detected, and corrections made by the mill with respect to procedure or mechanical changes.

Undercooking. Undercooking starch results in unswollen granules, which will not form the film required for binding. Here again the microscope can be used and, if swollen granules are found, a higher cooking temperature or a longer hold period is recommended.

Excessive Softener (Size Compound). Excessive softener can inhibit swelling by surrounding each granule with an oily coating that resists penetration of the water required for cooking. Microscopic examination will also expose this situation. If it exists, the softener should be added after the mix reaches the boil. Concentration should be reduced, or another type of softener should be used.

Uniform Viscosity. Uniform viscosity is obtained by thoroughly cooking past the peak viscosity

to the point where the size solution shows only negligible change on continued cooking. Laboratory cooking and recording viscosimeters are not too useful in predicting cooking requirements, because most of them operate under much milder cooking conditions and require a much longer time to arrive at equilibrium viscosity.

The best check is in the slasher room under plant conditions, using a heavy brass viscosimeter cup and continuing the readings until the leveling-off place has been reached, thus establishing a minimum cooking time for future runs. Of course, recording viscosimeters designed for size kettles are in use and are ideal for this purpose.

If a homogenizer is used, the viscosity should be taken at various homogenizing pressures to determine suitable operating conditions. The homogenizer is no substitute for adequate cooking with respect to granular rupture, but will reduce the size viscosity to the proper level. A graph of cup viscosity against homogenizer pressures proves very helpful here.

SIZE APPLICATION

Size application involves impregnation of the yarn with a size solution, removal of excess size, and drying. The way it is applied has considerable bearing on shedding.

In the following discussion of the variables which affect shedding, one fact is clear: Either *too little* or *too much* starch will aggravate shedding by either feathering out the fibers in the under-sized portions or breaking them off in the over-sized areas.

Squeeze Rolls. Squeeze-roll pressure must be heavy enough to prevent a continuous sheet of size from forming on the surface, thereby filling areas between adjacent yarns with size. Exaggeration of this condition is readily detected.

In one plant, surface sizing was so bad that a glazed coating was visible while the yarn was still wet as it left the squeeze rolls. Had the condition been any worse, it would not have been possible to separate the yarns at the split rods without numerous breaks.

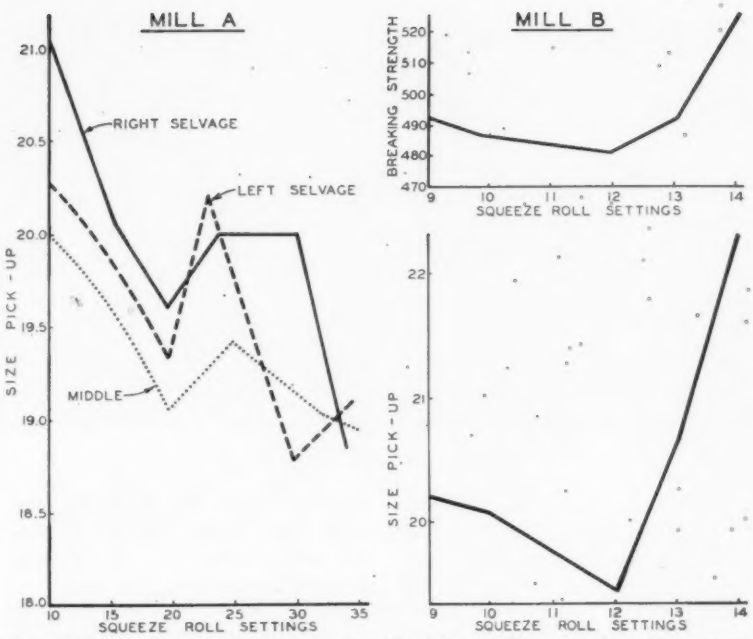


Fig. 2 (left) and Fig. 3 (right) illustrate unpredictability of effect of variations in squeeze-roll pressures on pick-up and strength.

Normally, plant conditions are not this bad, and it is more difficult to assess the part that squeeze-roll pressures play on shedding. One method is to make a pick-up reading versus various squeeze-roll pressures. A graph of pressures plotted against pick-up would show at what pressure, if any, pick-up began to be constant. Pressure would then be adjusted a little beyond this point to allow a safety factor.

As slasher speeds increase, less time is available for squeeze-out; therefore, the test should also be conducted at the highest speeds. Too, the more viscous the size, the greater the pressure required. This factor must also be considered and tests conducted using the thickest formula.

At the end of a set, a test may be run by the mill, even with a number of ends missing or crossed, to determine optimum squeeze-roll pressure for a given condition. The warp is sized at the lowest possible pressure for a few yards and that portion marked while the warp is still moving. The pressure is increased and the warp marked again. The process is repeated to cover the entire range of pressures. Finally, at the dry end, the warp is unwound and portions sent to the laboratory where size pick-up is plotted against squeeze roll pressures to determine proper squeeze pressure for desired uniform results.

There is no *one* correct pressure that will satisfy all conditions, and the results obtained pertain only to the conditions of the individual test, taking into consideration viscosity, squeeze-roll density, covering, speed, type yarn, sley, etc. Normally, it is better to operate at higher pressures and not to change pressures to control pick-up except as a remedial measure. Rather, control of pick-up should be properly obtained by varying the size concentration.

Not only is the amount of pick-up important for minimum shedding, but it also affects weaving, yarn strength, and breaking stretch. It is not possible to tell beforehand what effect variations in squeeze roll pressure will have until tests have been made. The accompanying graphs (Figs. 2 and 3) depicting actual mill practice, illustrate this unpredictability.

The top squeeze roll should lie directly above and in line with the axis of the bottom roll. This

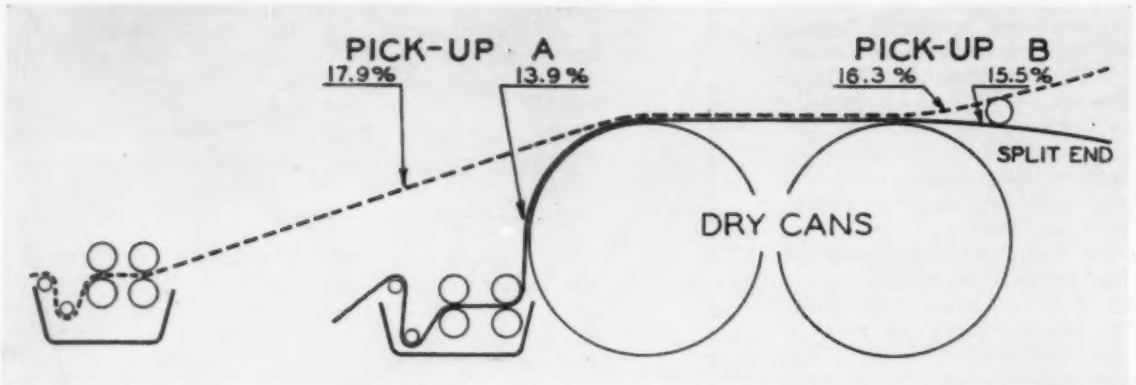


Fig. 4. Example from actual recent mill practice shows double fault of unequal size pick-up and migration of size from top to bottom sheet.

is a variable which can be rectified by replacing worn bearings or by realignment.

Improperly crowned rolls will give uneven size deposition which can be detected using standard size analysis of each selvage and the center portion of the sized warp. The graph *(Fig. 2)* demonstrates the effect due to improper squeeze roll conditions.

Squeeze roll surfaces should be of such a density and uniformity that surplus size is dressed-out from between the adjacent yarns across the entire width. Grooved or worn rubber rolls should be buffed.

If blankets are used, they should be trimmed so the effects of lap marks are negligible. A microscopic cross section of the sized yarn before the dry split will show what degree of dressing has been obtained.

Wet Splits. One or several wet splits will lessen adhesion of adjacent yarns, causing less fiber rupture and shedding. The difference is so obvious that it is readily seen at the dry end. The sections separate with ease even though they may have been dried together on the first dry can.

Improvement is made as the number of splits is increased, but lapping difficulties often arise. Here, no laboratory work is involved except for measurement of shed at the slasher and loom.

Double Size Boxes. Double size boxes are frequently used with high-sley goods by splitting the warp. It is well to check occasionally that each box is giving the same pick-up and stretch. A simple size analysis will confirm this.

Sometimes the warps from each box are dried together on the first can. Again, a size analysis will show whether there is migration of size from one sheet to the other.

At the end of a set, samples of yarn are taken, simultaneously, from just after the nip and just in front of the drying unit. They should be air dried before bagging for laboratory analysis. Slasher-dried samples of each shed are also taken at the front end at the same time.

If a divided warp from each of the two boxes joins together on the first dry can, migration of size can take place from one warp to another. This may be due to the different temperatures at which each warp reaches the dry can and to the different amount of "setting-up" of size on the yarn surface because of longer time from impregnation to drying (and, consequently, lower temperature).

Migration may also be caused by the bottom yarn section not only being in earlier contact with the dry can, but also in direct contact with the heating surfaces. Correction may involve rethreading so each section is partially dried on separate cans before joining for the final drying.

Migration is undesirable because, although it may balance out variations in size pick-up, it does not assure that the size is placed as effectively in and on the yarn as when applied directly from the size box. Undoubtedly, transfer of thickened, partly congealed size from one warp to the other due to migration is not conducive to minimum shedding.

Fig. 4, taken from actual recent mill practice, shows the double fault of unequal size pick-up as well as migration of size from the top to the bottom sheet.

Slasher Speed. At very high speeds the yarn does not have sufficient time in the size box for impregnation, nor for removal of excess size by the squeeze rolls. Size pick-up can be plotted against speed for given conditions. The range where the pick-up levels off is the proper speed and should give less shedding.

The test is carried out at the end of a set by sizing sections of warp at different speeds. For test purposes, it is not necessary to dry the warp, provided the samples are allowed to dry before analysis.

Unfortunately, the optimum speed will vary with conditions and will be different depending on other operating variables. Theoretically, a parabolic curve could be obtained if the slasher could be operated at sufficiently high speeds. In other words, the pick-up is generally lower at low speeds than at high speeds. Obviously, if the rate of speed is so high that there is not sufficient time for size absorption, then the pick-up would be lower.

The apparent contradiction of claims that both high and low pick-ups are obtained at increased

slasher speed can be explained by the fact that slasher conditions may be either on the upward or downward slope of the complete speed-pick-up curve.

Viscosity plays an important role in this relationship, since it varies with the speed, and laboratory measurements are not necessarily the same as the "impact viscosity" encountered in the sizing application.

Fig. 5, taken from plant practice, shows negligible effect on pick-up at changing speeds, but does show appreciable effects on strength and stretch properties. These variations can not be attributed to slight pick-up variations alone. Both higher stretch and higher strength are desirable for good weaving and minimum shedding.

The graphs show that what is gained in stretch is lost in strength until a speed of 45 yards per minute is reached, whereupon the stretch also begins to drop off. Obviously, this test discloses a danger point beyond which the slasher should not be operated. These data apply to, and are valid for, only one mill operating under specific conditions and can not be applied to other mills with different application conditions.

Slasher Stretch. Excessive stretch generally causes poor weaving, and also has an adverse effect on shedding because the yarn is attenuated with less fiber in the core and more at the surface exposed to abrasion. A stretch test is regularly carried out in the plant and is measured by the difference in the length of yarn fed into the slasher and that taken out.

The laboratory analysis provides breaking stretch figures, which although influenced by slasher stretch, are not equivalent.

Drying. Overdrying is consciously and extensively practiced because it is less harmful than underdrying. Laboratory analysis for moisture (taking care to quickly remove the sample from the slasher and place it in an airtight container) will show whether the warp is overdried, or whether there is a variation from

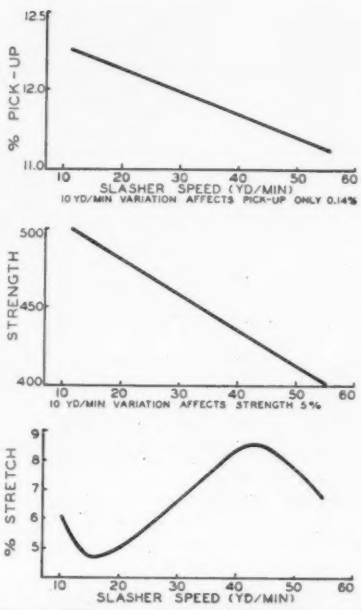


Fig. 5. Mill tests show negligible effect on pick-up at changing speeds, but do show appreciable effects on strength and on stretch.

selvage to selvage. Several per cent within the normal regain represents suitably dried yarn.

An automatic moisture controller is ideal, but requires proper supervision and maintenance. However, the reward is higher production and higher quality. Overdrying should be avoided because dry heat (which is a commercial means for breaking down starch into dextrine) weakens the very film intended to protect against shedding.

Overdrying may produce more static at the slasher. This can be determined by the size technician with his portable electrostatic voltmeter. Necessary corrections can then be taken.

Hot Yarn. In textile mills "hot yarns" refers to overdried warps. Hot yarn is generally given little attention. It is possible to overdry and yet have cool yarn before going onto the loom beam. Many of the old-fashioned cotton slashers have very efficient cooling fans on the dry end. Since a period of time is required to do damage, less harm is done to overdried yarn if it is quickly cooled before the loom beam.

Hot yarn is a good insulator and the interior will stay hot and dry for hours in a compact beam. By means of a portable pyrometer with a needle probe, the laboratory can make readings to determine whether lack of cooling before beaming is a factor.

SIZE FORMATION

The most economical and widely used film-former is starch, the foundation stone on which minimum shedding depends. Corn starch and its derivatives are more widely used for warp sizing than all other starches put together. Very highly converted starches are not used because they form weak, brittle films. It is advantageous to use the heaviest grade of corn starch that can be conveniently handled in plant equipment, at the concentration required for good weaving.

The advent of new starch derivatives places another tool at our disposal. Generally, film-formers are more or less physically attached to the fiber surface. It is possible that a cationic starch having a positive charge would more strongly adhere to negatively charged fiber surfaces.

It should be possible to lessen shedding with such a material because of its good film-forming properties and its electro-chemical bond to fiber surfaces. These products may also be advantageous in reducing electrostatic effects on the slasher and loom.

Fluidity. The selection of the proper fluidity starch has considerable bearing on shedding. If, in a given case, we assume that high pick-up is required for weaving, then pearl starch may be so heavy that penetration and anchorage cannot be secured, and will result in starch flaking off along with fiber. The surface may be excessively sized and the protruding fibers snapped off in the loom. Excessive shedding, due to surplus size between the yarns, will undoubtedly occur. The starch specialist should then recommend a thinner grade.

The contrary can also prevail if too thin a starch were used for the required pick-up. It is equally as bad to size the yarn through and through as it is to coat it only on the surface. With excessive penetration the core becomes brittle,

the inner fibers are not free to move under the stresses and strains of weaving, elasticity is reduced, shedding increases, and weaving is affected.

Distribution of size may be shown through microscopic cross sections. Experience, however, rather than laboratory analysis, will dictate what steps should be taken. Plant personnel are able through trial and error to make the best choice as to proper fluidity.

Size Concentration. Obviously, the greatest single factor affecting pick-up is size concentration. It is usually determined through trial and error and either too little or too much will give poor weaving. In addition, shedding also takes place when the concentration is too low, because the projecting fibers are easily teased from the body of the yarn by loom abrasion. If the concentration is too great, the fibers are broken off during weaving. A proper balance must be maintained so that the sum of "teased out" and "broken off" fibers is less than at any other concentration.

Once the concentration has been decided upon, a laboratory check of the storage kettle and size boxes may be made from time to time to determine if the desired concentration is being maintained. The solids determination is a control for leaking valves and steam pipes, excessive evaporation from jacketed size boxes, correct weighing, and so forth.

The actual procedure is to obtain a sample of size from the kettle after the cook is finished and the standard volume obtained. The laboratory will determine the per cent solids, which establishes the standard reference percentage for later comparisons.

Subsequent examinations of size from the storage kettle and size box will detect variations from normal. Tests at various times will show whether this phase of the operation requires attention.

Faster machinery depreciation, easier financing called for by ATMA

■ RECENTLY the special committee of the Senate Interstate and Foreign Commerce Committee which is studying the problems of the textile industry held hearings in Providence, R. I. James H. Hunter, president of James Hunter Machine Co., appearing as a representative of the American Textile Machinery Association, presented testimony on the obstacles which the textile industry faces in replacing obsolete equipment.

"It should be in the power of the Congress to see that rapid write off of new equipment, or other special tax treatment be given to those mills who replace old with modern capital equipment, and junk the displaced obsolete equipment," he said, in calling for revision of Bulletin F of the Bureau of Internal Revenue, which governs depreciation rates on machinery and equipment.

Noting that foreign textile mills can call on lending institutions of the U. S. for financing of machinery purchases, Mr. Hunter stated "There is no government lending agency to assist American mills in modernization programs, except, through recent legislation the Small Business Administration. However, the requirements of this measure do not fit the majority of the textile mills, and the ceiling on loans ($350,000) is not adequate for a mill's full modernization program."

As part of his testimony, Mr. Hunter cited the following case histories of the savings which mills have effected through modernization programs:

1. *Mill A*—25,776 spindles on combed cotton yarn (17s to 38.5s) using 1 1/16" middling cotton.

This mill modernized in 1958 by installing new equipment in drawing, combing, and roving departments, and using change-overs in spinning departments. After completion, the mill produced 90,000 lb combed yarn per week of 144 hours, compared to 80,000 lb with old equipment.

Cost per lb of production is now 10 cents, compared to previous cost of 17 cents per lb. Annual reduction in cost of production is estimated to be $325,840. In addition an annual saving of $41,300 is had as a result of reduction of comber noils from 16% to 13%. The total annual savings is $367,140 based on gross profits before taxes.

The estimated cost of modernization is $841,562. The estimated return on capital investment is 43.6%, with an amortization period of two years and four months.

2. *Mill B*—10,000 spindles, using cotton, rayon, acetate, Dacron, wool, flax, and noils for manufacture of various counts and blends.

This mill modernized in 1957 by addition of small amount of new equipment and rebuilding of remaining old equipment. Total cost of this modernization plan was $271,933. Manufacturing labor costs were reduced by $65,977 annually, with return on investment of 24.6%.

Production was increased 12.68%, on three-shift operation, 120 hours per week. If all new equipment had been installed the cost would have been much greater, but at the same time savings would be greater, also.

3. *Mill C*—40,000-spindle mill, manufacturing all-cotton carded yarns, 6s to 24s.

This mill modernized in 1957 by purchase of some new equipment, retaining some old with modification and adjustments, and by change-over in spinning.

Estimated costs of the program totaled $768,000. After completion, manufacturing costs were reduced by $227,000 annually, with an estimated return on investment of 29.5%. Production per man-hour was increased 8.75% or 590,000 lb per year of 6,000 hours operation. Amortization period for the modernization is estimated at 3¼ years.

If new spinning had been installed and all machinery adjusted to attain maximum production goals, cost would have been much greater, but production would have been raised by another 10%, with further reduction in costs, and therefore greater savings.

It should be noted that "change-over" or rebuilding equipment is usually done as an economy measure; for example, approximately eight spinning frames can be changed over for the price of two new frames.

4. *Mill D*—An integrated mill that has had a continuing modernization program in effect for many years shows an increase in production of pounds of cloth from 6,750 lb per 1,000 man-hours in 1948 to 9,639 lb per 1,000 man-hours in 1957.

It is of interest to note in the annual report of that company the slogan "Modernization is a job that never ends."

Among the speakers at the 7th Chemical Finishing Conference were, l-r: T. F. Cooke, American Cyanamid Co.; Fred B. Shippee, Gagliardi Research Corp.; R. L. Wayland, Jr., Dan River Mills, Inc.; and J. B. Irvine, Quaker Chemical Products Corp.

Cotton chemists probe

Wash-and-Wear

Staff report

THE LATEST advances in crease-resistant finishing, and some of the most important attendant problems, were discussed in Washington recently at the 7th Chemical Finishing Conference, sponsored by the National Cotton Council. More than 350 textile and chemical industry executives, technologists, and chemists heard papers on subjects ranging from chlorine damage and latest theories on cotton fiber structure to discussions on the most recent developments in triazones, acetals, epoxies, and triazines.

In his introductory remarks as general chairman of the two-day conference, Lawrence Marx, Jr., president of the National Association of Finishers of Textile Fabrics, pointed to the tremendous growth of resin-treated cottons. In 1957, 1.1 billion yards of cotton fabrics—about 20% of the estimated 5.5 billion yards of woven cotton apparel fabric—were resin-treated, according to a survey completed by the Bureau of the Census and jointly sponsored by the Finishers Association and the National Cotton Council. Mr. Marx predicted that this yardage would be approximately doubled in 1958, with the increasing acceptance of wash-and-wear dress shirts and no-iron sheets and pillow cases.

The following are abstracts of some of the papers:

Triazones. R. I. Wayland of Dan River Mills, Inc., spoke on triazones, a class of resins now also being used as crease-proofing agents. Triazone-treated fabrics, he said, show no damage due to retained chlorine; and when triazones are mixed with resins normally exhibiting high damage due to retained chlorine, they exert a "chlorine damage depressant" effect.

The accompanying table showing some of the typical fabric properties obtained with various materials as compared with those produced with a "mixed" triazone resin, was presented by Dr. Wayland. Each of the materials was applied as recommended by the supplier; where recommendations were not available, formulations were based on experience.

Although fabrics treated with some triazone resins show a tendency to discolor at elevated temperatures, the discoloration can be easily removed. When the resins have been properly prepared, and the proper treating conditions have been employed, odor development has not been a problem.

Following are data presented by Dr. Wayland showing a comparison of reflectances of samples treated with various types of resins as measured by a Photovolt Reflectometer with a blue filter, initially and after five home launderings with a synthetic detergent and hypochlo-

Properties Obtained with Various Finishes on 80 x 80 Print Cloth

Type Finish	Crease Resistance[1]	Filling Tear[2]	Filling Tensile[3]	Reflectance After Curing[4]
A — Dialdehyde	242	1.97	44.1	71.8
B — Epoxy	223	1.93	40.6	86.5
C — Epoxy DMEU	244	1.92	41.1	86.4
D — Acrolein-Formaldehyde Resin	236	1.65	39.5	82.8
E — Ketone-Aldehyde Resin	188	2.34	43.9	41.3
F — Acetal	204	2.61	50.7	86.8
G — "Mixed" Triazone Resin	231	2.65	47.2	86.6
H — Caustic-Halohydrin	154*	3.23	54.0	—
I — "Wet C.R. Finish" (Expt'l)	146**	3.85	50.0	—

[1] Monsanto—warp and filling
[2] Trapezoid
[3] Scott Tester
[4] Photovolt Reflectometer, blue filter

* Wet crease resistance—223
** Wet crease resistance—280

rite bleach:

Type Finish	Reflectance Initial	Reflectance 5 washes Clorox & Tide
"Mixed" Triazone	87.6	89.0
Cyclic Urea	86.8	88.6
Triazine-Cyclic Urea	87.0	82.8
No Resin	88.1	88.3

There is one notable difference between yellowing of the triazines and the triazones, Dr. Wayland pointed out — in fabrics treated with triazones yellowing can be removed by bleaching, while triazine-treated fabrics are yellowed by hypochlorite during laundering, a situation aggravated by further bleaching. The "mixed" triazone resins show much less tendency to discolor than do the "straight" triazone resins under all conditions where discoloration has been observed.

In concluding, Dr. Wayland stated that the use of triazones is indicated wherever high crease resistance with good fabric strength, without danger of strength loss or discoloration on chlorine bleaching, is desired. Their use is not indicated (1) where fabrics are not to be washed after treatment, (2) where extremely high curing temperatures must be used, or (3) where the finished fabric is apt to be subjected to high temperatures such as in the manufacture of fused collars.

Progress in Acetals. The paper, "Recent Developments in Cotton Finishing with Acetal Reactants," authored by J. B. Irvine, T. J. Cronin, and J. H. Davids of Quaker Chemical Products Corp., was essentially a report on a new, modified glycol acetal. Data were presented on its performance in mill and laboratory runs on a wide range of white, printed, and dyed fabrics of varying constructions.

A laboratory evaluation was also made to determine how this new acetal reactant compares with other products in imparting wash-wear effects. The accompanying table shows testing results on 80-square cotton fabric samples treated with the various resins, all of which are commercially available.

An additional comparison was made between the acetal reactant and the triazone with respect to their resistance to zinc silico fluoride, a souring material. Results showed that the modified glycol acetal washes down in crease resistance to about the same point that it does in other types of laundering. The crease resistance of the triazone finish, on the other hand, drops steadily and is almost eliminated at the end of 10 such launderings.

Each of the resins listed in the table has advantages and disadvantages, and no single one can supply the answer to all problems. The new modified glycol acetal does not suffer from the chlorine susceptibility problems of the DMEU nor the amine-odor development problems of the methyl and ethyl triazones.

Epoxy Blends for White Cottons. F. B. Shippee, of Gagliardi Research Corporation, presented a paper, "Epoxy Resin Blended

White Fabric Wash-Wear Finishing Agents
Laboratory Comparison of General Properties

		Acetal Reactant	Triazine-Containing Resin	Triazone	DMEU	Blank
Crease angles:	original	263°	278°	275°	277°	158°
	10 wash	240°	258°	251°	257°	157°
CRI[1]		105°	120°	117°	119°	——
Wash wear[2]	1 wash	3rd	4th	2nd	1st	5th
Ranking:	30 washes	2nd	4th	1st	3rd	5th
% Tensile loss	MTL[3]	41	47	37	44	——
CRI/MTL[4]		2.6	2.6	3.2	2.7	——
Accelerotor abrasion loss		6.2%	12.3%	10.6%	8.7%	1.6%
Chlorine damage,	1 wash	2.5	1	2.5	5	2
%	5 wash 212 F	0	0	4	60	7
AATCC 69-52	30 wash 160 F	3	0	0	>75	19
Scorching: 60′ @ 365 F		<——— All Satisfactory ———>				
Scorching Rank 30′ @ 420 F		3	2	5	4	1
Tensile strengths	5W	26	26	29	27	50
household Clorox	5W ironed	25	27	26	15	50
washes:	20W	27	23	22	26	40
	20W ironed	23	24	21	10	40

[1]Crease Resistance Increase; i.e., the crease resistance of the finished fabric minus the crease resistance of the fabric before finishing.

[2]All wash-wear ratings, with the exception of the blank, were 4 or better. Because of the closeness of the wash-wear ratings, the finished fabrics were ranked for comparison.

[3]Major Tensile Loss (%), whether warp or filling.

[4]Examination of data from numerous treatments indicates that for mill treatments, an efficiency factor (CRI/MTL) of 2.0 is fair and one of 2.5 is good. The values for laboratory treatments are generally somewhat higher than those for mill finishing work.

Finishes for White Cottons," authored by him and D. D. Gagliardi, in which he discussed the properties of commercially available epoxy resins when blended with nitrogenous resins. Despite the properties of durability, resistance to chlorine damage, and absence of odors, the major drawback of epoxy resins is that of cost, both in manufacture and in application, which requires higher solids concentrations. The higher solids concentration, 12-15% as against about 5% for dimethylol ethylene urea (DMEU), is necessary due to the higher molecular weight of the epoxies.

In their work to find suitable finishes for white cotton fabrics, the authors evaluated a large number of resins and chemical finishing agents. These were blended in various ratios with epoxies already of commercial importance. The purpose of the work was to find suitable blends which would meet practical cost requirements with no sacrifice of the desirable properties of the epoxies.

Most formulations evaluated contained a commercially available epoxy resin. The co-reactants were also commercially available products. Zinc fluoborate was the catalyst used for blended and unblended finishes (epoxy resins). The fabrics were impregnated to 70% wet pick-up, frame-dried, cured, and after-washed, and then subjected to the various testing procedures.

Of the non-nitrogenous co-reactants evaluated, it was found that a blend of 2% glutaraldehyde and 10% epoxy resin when suitably formulated with other additives (silicones, polyethylene, or epoxidized soy bean oil) produced a satisfactory white finish with a crease recovery angle of 250°-270° and good wash-and-wear properties.

In evaluating nitrogenous co-reactants, the aim was to develop an epoxy blend which might give superior performance to either product used alone. In one phase of the work, blends of epoxy resin with DMEU and epoxy resin with triazone in various ratios were evaluated. It was found that a 10% solids concentration of a 5/5 blend of epoxy/DMEU showed a remarkable improvement in crease resistance; epoxy-triazone concentrations, on the other hand, yielded no improvement in crease resistance. Though better crease resistance was obtained at high triazone/epoxy ratios when recommended amounts of zinc fluoborate for the epoxy resin and special catalyst for triazone were used, the objectionable odor of triazone-treated fabrics and the poor effects at low ratios discouraged further experimentation.

In a later phase of the work, it was found that combination of epoxy resin with DMEU was superior to combinations of epoxy with a methylated trimethylol melamine and epoxy with a methylated polymethylol urea in regard to crease resistance. This led to evaluation of the durability of the epoxy/DMEU finishes. When subjected to two full compressive shrinkage washes at the boil, using soap and soda ash, it was found that only in the case of epoxy/DMEU blends was the crease resistance durable. (The other blends evaluated were epoxy/MMF and epoxy/MUF).

Tensile specimens from the above blends were compared for appearance after the chlorine and scorch test. Only the epoxy/DMEU blends produced no discoloration on ironing in ratios as high as 5/5 in mild tests or 7/3 in more severe tests.

Since the 7/3 epoxy/DMEU ratio offered a good balance of cost, resistance to chlorine damage, high crease resistance, and wash-and-wear performance, further tests were made to compare this with straight epoxies and with other resins, namely DMEU, MMF, and triazone. The greatest durability was found with the 15% epoxy resin used alone, followed by the 7/3 epoxy/DMEU blend at 10% solids concentration. These two epoxy-based finishes were also more durable to multiple hot chlorine washes than the DMEU and triazone resins.

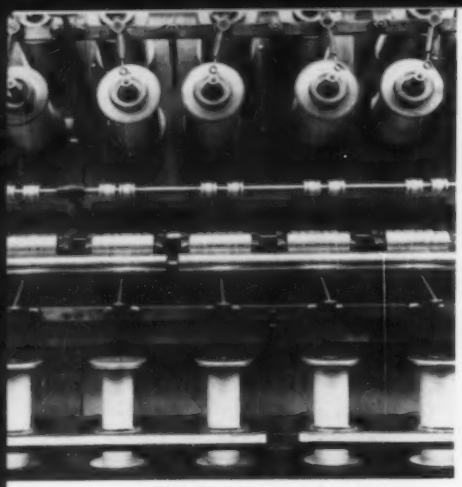
The authors found zinc fluoborate to give best results as a catalyst for epoxy/DMEU blends. Although blends of these resins are less sensitive to alkalis on the fabric, optimum results can only be obtained in fabrics having low alkalinity, that is, 0.05% or less. Normal drying and curing conditions suitable for other resin finishes are satisfactory, and best whites are obtained when treated fabrics are afterwashed with sodium perborate and a non-ionic detergent.

Odor Development Studies. In a paper, "Amine Odor in Resin-Treated Fabrics," prepared by A. C. Nuessle, E. O. J. Heiges, and R. A. Olney, of Rohm and Haas Co., the results were reported of investigations into three resin finishes: urea formaldehyde, ethylene-urea formaldehyde, and triazones.

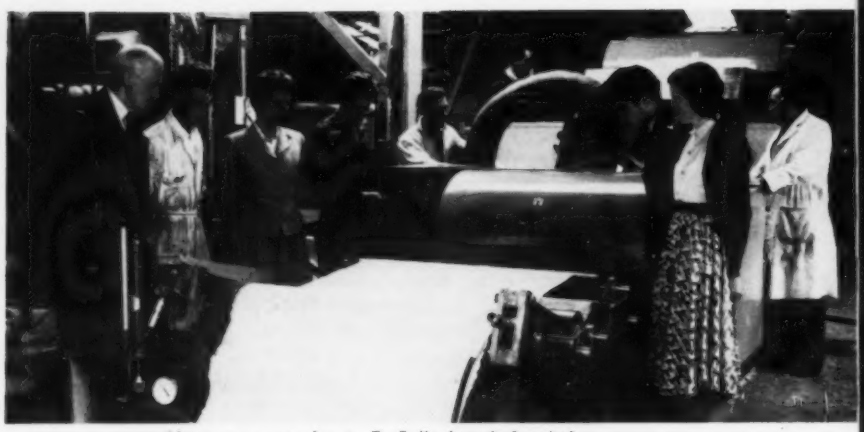
In the experimental work, materials suspected of influencing odor development were added to a deionized solution of urea-formaldehyde paste. Samples of rayon fabric were then impregnated in the various baths, dried, and cured. But the fabric samples were not after-washed, since it was desired to learn how much fishy amine had been produced during the cure. The method of Kraus was used to test for amine, which in most instances indicates the presence of trimethylamine.

In the case of urea-formaldehyde resins, results showed that three ingredients are necessary to develop odor: ammonia, formaldehyde, and formic acid (or formic salt). Fishy trimethylamine can only be produced if all three components are present. Of these three, only the formate content is subject to control, as ammonia and formaldehyde can be produced during curing by urea resin breakdown. The formate content can be eliminated or reduced by (1) deionization of the resin bath shortly before use, (2) use of fresh resin, (3) avoidance of finishing agents containing formic acid as an ingredient.

The use of zinc nitrate as a catalyst with ethylene urea-formaldehyde finishes not only eliminates the use of an ammonium salt catalyst, but should a source of ammonia be present, will tend to hold the resulting trimethylamine until the fabric is given its first alkaline washing.



Platt-Bright tire cord twister



Nonwoven range by A. E. Callaghan & Son Ltd.

Here's what was NEW at

by P. Abbenheim

CLAIMED to be the biggest show of its kind ever presented, the International Textile Machinery and Accessories Exhibition held in Manchester, England, this past October presented the European textile industry with a shop window of a magnitude rarely seen.

Exhibitors came from all over Europe and also from the United States, although the latter, with one important exception, showed nothing that had not previously been featured at the Southern Textile Exposition in Greenville the previous week.

PREPARATORY AND SPINNING

Among exhibits of particular interest to cotton mills was the "Clean-O-Matic" opening room line of Tweedales & Smalley Ltd., designed to produce laps of maximum openness, cleanliness, and regularity. Designed for cottons up to 1¼", it is based on the Shirley opener [see TEXTILE INDUSTRIES for April, 1953, pp. 115 and 117]; the line features automatic waste removal, pressure lubrication, electromagnetic control, and automatic doffing [TI for February, 1957, p. 225].

The "New Bradford" system of worsted drawing and spinning was displayed by Prince-Smith & Stells Ltd. The system includes the Raper Autoleveller gill [see TI's report of experience with the Autoleveller in 12 English mills; May, 1955, pp. 112-113], with 24" coiler and round can; Autoleveller draw box; newly designed drawing finisher; and "Megaflex"/A.S.D. ring spinning frame with Ambler Superdraft, which can spin from a single roving weight any count that it is possible to spin from a given wool.

Carpet yarn production, in view of the introduction of tufting to England since the last Manchester Exhibition in 1953, has come to the fore, and a very interesting spinning frame built by the Belgian firm of Duesberg-Bosson S.A. was perhaps one of the most impressive units in the show. This machine is of an entirely new construction, and although only 148 spindles were on show, it is normally built with 260. With a lift of 17", the magnum ring frame uses a special false-twist unit in drafting. It gives a 3-lb package of yarn, and this can be anything from 0.5s to 7.2s, cotton count.

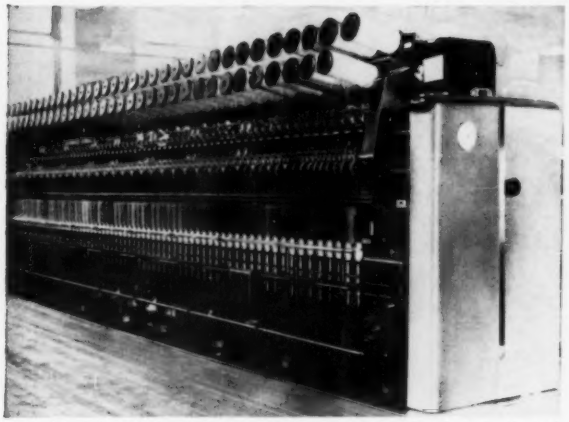
For new U. S. equipment

see "New Product Parade" section of this issue (pages 149-170). Many of the new developments shown at Greenville are fully described.

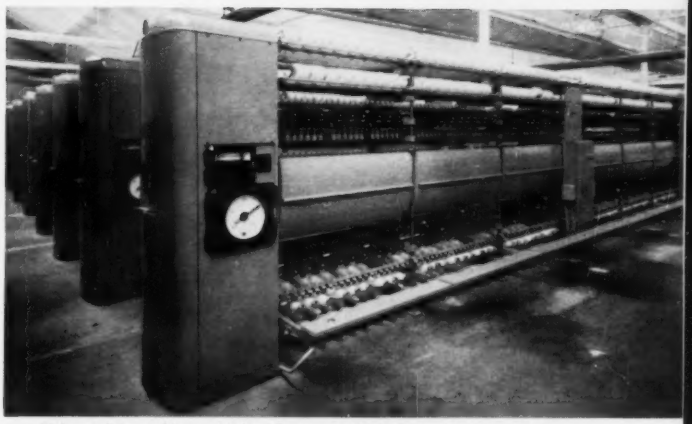
TOW-TO-TOP AND TOW-TO-YARN

Two new European tow converting machines—one English and the other French—were displayed for the first time. The Greenfield tow-to-top converter manufactured by F.N.F. Ltd. was shown running into a Speed-O-Gill unit of Prince-Smith & Stells Ltd. By combining the two units it is possible to produce a sliver or top from tow in a maximum of three operations. At the exhibition, a rayon tow of 4.5 filament denier, 2,000,000 total denier, was being converted to 6" staple at the rate of 120 lb/hr.

The K11C direct spinning frame of Societe de Constructions Mecaniques de Stains S.A. was spinning a yarn of 83s cotton count directly from a 750-denier, 720-filament rayon tow on one side of the frame; while on the other side it was spinning an 84s yarn from a 1650-denier high-tenacity viscose tow of 0.4 denier/filament—one of the finest rayon tows produced in Europe. On the Stains machine, the tows on bobbins or cheeses are mount-



Megaflex/ASD ring spinning frame—Prince-Smith & Stells Ltd.



False twist machine—Atelier Roannais de Constructions Textiles

Manchester

ed on a creel, and the individual filaments broken in the drafting zone under the control of a special prism.

TWISTING AND WINDING

Platt Bros. (Sales) Ltd. featured the Platt-Bright tire cord twister [see TEXTILE INDUSTRIES for November, 1957, p. 198], which combines uptwisting and ring twisting. The machine is designed so that the take-off from the supply packages to the front rollers is the same distance for each yarn package, and this principle is maintained throughout cord production so that each end of yarn is given the same treatment as any other.

Processors of Dacron and other polyester yarns showed interest in the newly designed coner of Fr. Mettler's Sohne which winds at the rate of 200-600 yd/min, and is equipped with specially designed singeing units which were developed by I.C.I. Ltd. (producers of Terylene polyester fiber). The electrical singeing units on the machine are simple in design and are open in construction, rather than encircling the yarn. The coners have a traverse of up to 12″, and will produce cones of either 9° 15′ or 5° 57′.

Mention should also be made of the double-twist or two-for-one spindle. One unit that has found acceptance by at least one British tufting yarn spinner is the "Nomatex" machine built by Societe des Mecaniques Verdol. This will twist all types of fibers onto bobbins from as small as 2 lb up to 22 lb, with from 1 to 30 tpi, at spindle speeds from 3,000 to 13,000 rpm.

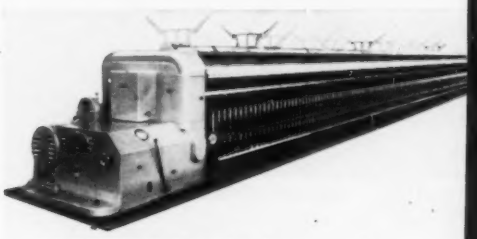
TEXTURED YARNS

A machine for making false-twist yarns was shown by Ateliers Roannais de Constructions Textiles, and was operating at 50,000 rpm during the show. All the heaters on the frame are enclosed in a container running the length of the frame and the temperature is monitored, spindle-by-spindle, to insure that uniform yarn is produced.

Ernest Scragg & Sons Ltd. showed their new "DLX" machine for the post-treatment of false-twist yarns. Four ends are taken through a relaxation heater by means of an overfeed. It is claimed by the manufacturers that nontorque yarns with various properties can be produced on the machine.

NONWOVEN FABRICS

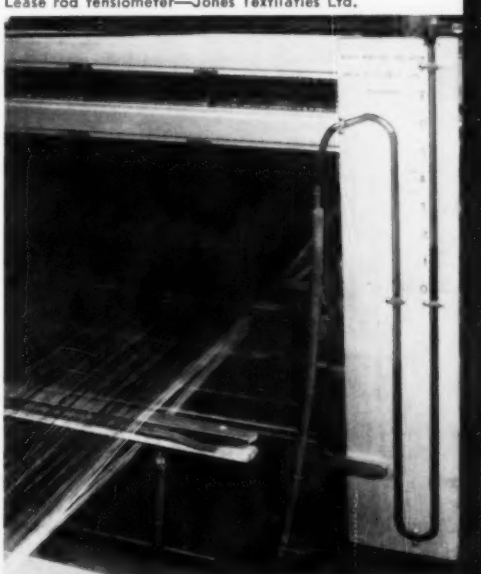
The only nonwoven fabric line operating at the Exhibition was the opening, blending, felting, and web-forming machine of A. E. Callaghan & Son Ltd., of



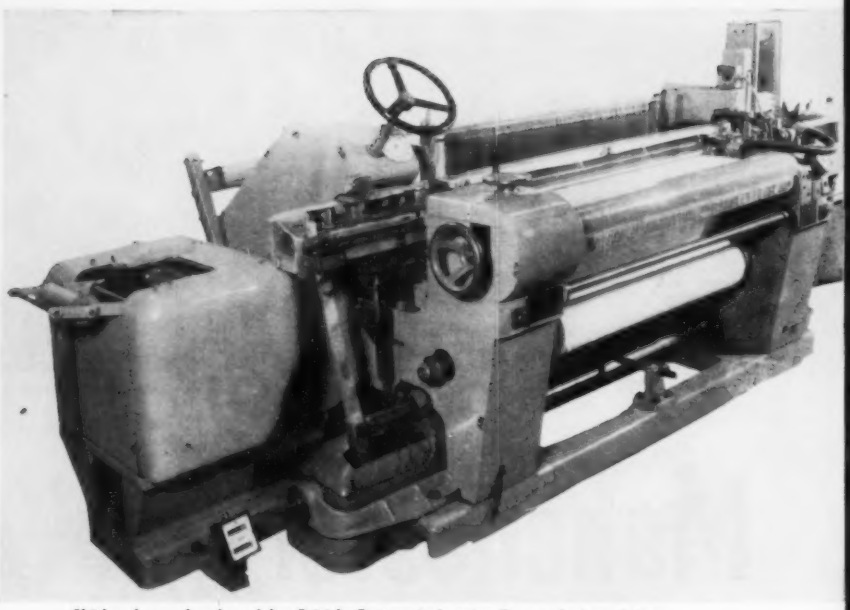
Duesberg-Bosson spinning frame

Greenfield tow-to-top converter—F.N.F. Ltd.

Lease rod tensiometer—Jones Textilaties Ltd.



Experimental fluid bed drying machine



Shirley loom developed by British Cotton Industries Research Association

which about half a dozen units are in operation in Britain. On the main unit, which can be served by a preopening machine, random webs can be made which are "veil-thin to 3" thick, weighing from ½ oz to 6 oz/sq ft."

WEAVING

Manufacturers of weaving machinery were well represented at the Exhibition, with looms from Britain, the Continent, and the United States on show. The Swiss firm of Sulzer Freres S.A. displayed their latest Sulzer loom weaving at 265 ppm across an effective reed space of 69" on a worsted pick-and-pick fabric. Another Sulzer was weaving 130" cotton sheeting at 200 ppm.

Making its debut at the show was the "Shirley" loom of Wilson & Longbottom Ltd., long awaited in British trade circles. Leather parts have been dispensed with as far as possible on this loom, and total parts on the loom have been reduced to 1,270. A picker with a plastic insert was being tested on one side of the loom, and appeared to be operating very successfully at 184 ppm.

A permanent crush of visitors surrounded the booth of Max Paabo where the "Whispering Wizard"—the Maxbo loom—was on display. This loom, which was described in detail in TEXTILE INDUSTRIES for April, 1958, pp. 114-116, uses an air-jet method of filling insertion, and the improved model operating at the show was weaving a 36" fabric at 410 ppm.

TUFTING

Probably the most astonishing carpet machine in the show was that featured by Radcliffe Engineering Co. Called the "Bartuft," it makes a carpeting of loop-pile structure from any type of yarn at high speed and without any backing cloth. The loops are pressed between gripper bars on a metal conveyor. These bars open as they pass upward and from vertical to horizontal position.

As they are in this position, a bar presses a warp between them, and this is held as a loop—the length of which varies according to how far the bar descends—which is carried along the conveyor. To this is then applied a thick layer of polyvinyl chloride, which penetrates the yarn and locks it into what is to become the backing.

After coating with PVC, the yarn is taken on the conveyor to infrared heaters beneath, which cure the backing. As the conveyor continues downward the loops held by the horizontal bars are released, and so the carpet is created.

WET PROCESSING

For the wet processor, probably the most interesting exhibit was the experimental unit fluid bed machine displayed by the British Rayon Research Association. This unit can be used either for drying—its original purpose—or for dyeing.

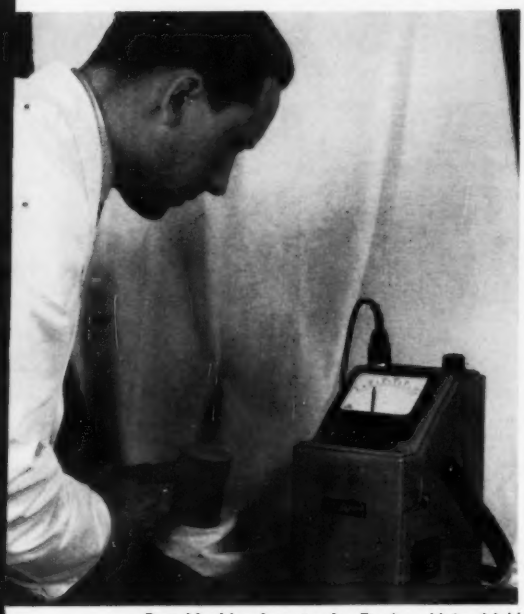
The machine is very simple in concept: A chamber is filled with sand or tiny glass beads, kept in a "fluid" state by air introduced from below under pressure. The agitated sand or beads then behave as a liquid.

In this bed of sand are heater tubes which raise over-all temperature. It has been found that this is one of the most efficient ways of transmitting heat from the tubes to the fabric which they are to dry.

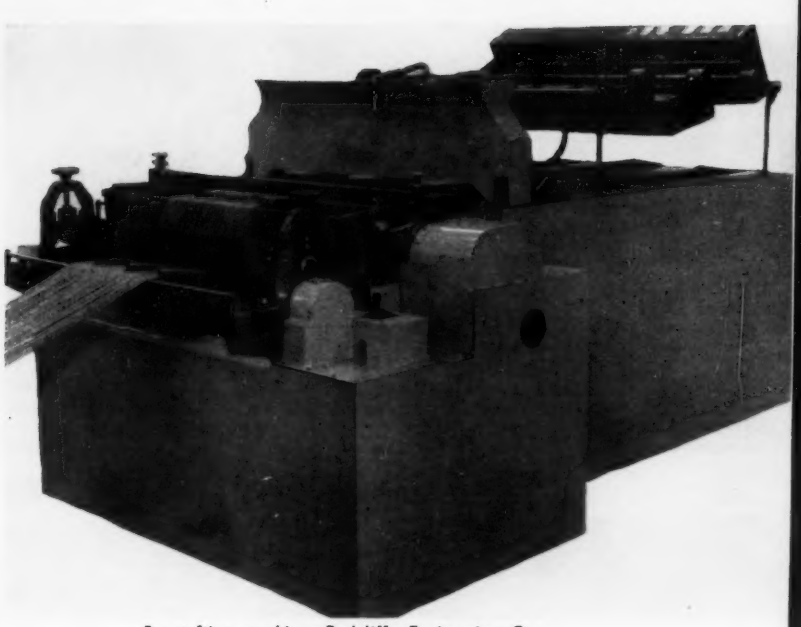
In dyeing, the fabric is first padded with dye liquor and then passed through the fluid bed. Resin finishes can be similarly cured.

LABORATORY AND QUALITY CONTROL

New instruments developed by the British Rayon Research Association were one of the centers of attraction at the show. A case in point is the yarn filament counter made by Louis Newmark Ltd. A sample of yarn about 1"



Portable bleach meter by Dr. Ing. Heinz Mahlo



Bar tufting machine—Radcliffe Engineering Co.

long is placed between two grippers, which hold the sample over a cutter head. The cutter is then slowly advanced, and as each filament is severed the counter automatically records it and so makes a count of the number of filaments in the sample. It is claimed that an accurate count can be made in 1 min even by an untrained operative.

Also exhibited was a transducer-type continuous yarn tension measuring device made in Switzerland by Rothschild, which it is claimed is able to measure as many as 200 tension variations per second. A special model of this has been developed which will withstand the acid preparation baths in viscose rayon manufacture, so that tension variations at this important point in fiber production can be checked.

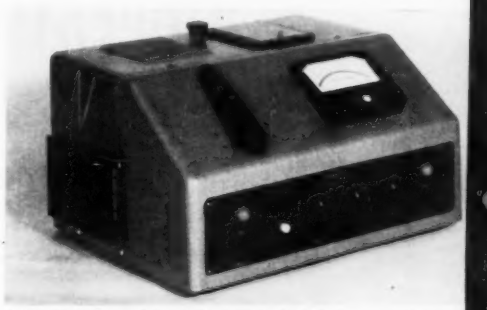
But in the opinion of many at the show, the most interesting instrumentation exhibits came from behind the Iron Curtain, as displayed by Metrimpex of Budapest, Hungary. These included a fully automatic cotton grader, in which a fiber sample is placed by a distribution head around the circumference of a drum covered with black velvet. A photoelectric cell then notes the appearance of the fibers and records their length on a chart. A test can be completed in a few minutes.

Metrimpex also showed its "Infrafot," for measuring the infrared absorption of grey fabric vs dyed fabric or of two dyed fabrics. While the machine gives comparative rather than absolute values, it does compare the infrared absorption, and hence the comparative coolness or warmth, of fabrics as affected by dyeing.

Shown for the first time anywhere was the "Scotomatic" automatic testing unit of Scott Testers, Inc. This unit is applied to the standard IP-4 incline plane tensile strength testing machine used for testing tire yarns. Once this machine has been set up it will automatically run off 100 tests without any further attention. If desired, it can run through an entire package of yarn, with each group of ten tests subtotaled so that a specimen average can be easily noted.

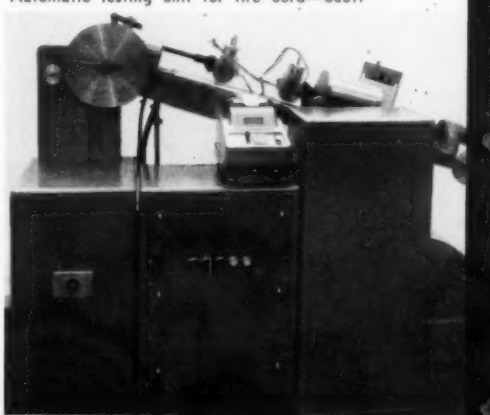
Another instrument which attracted considerable attention was the "Textometer" bleach meter manufactured by Dr.-Ing. Heinz Mahlo Elektromechanische Werkstatten. This portable instrument can be used to make on-the-spot measurements of the degree of bleaching of a fabric, either wet or dry. The instrument incorporates its own accumulators of the Ni-Cd type, and a built-in charging unit. It gives a reading directly in percentage.

Automatic filament counter—Louis Newmark



Infrared absorption instrument—Metrimpex

Automatic testing unit for tire cord—Scott



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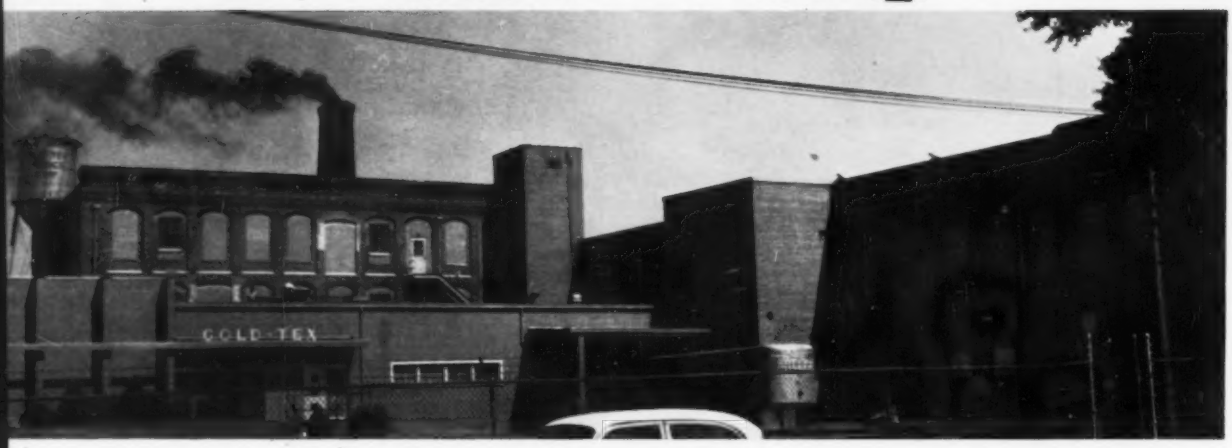


Operation Facelift at Gold-Tex

Hot paint spray technique for painting mill saved time and money

Staff prepared Exclusive

THE older mill brick buildings at Gold-Tex Fabrics Corp., Rock Hill, S. C., have recently been given a cosmetic treatment of gray paint sprayed on at 160 to 180 F (nozzle temperature). The system of applying the heated paint under pressures of 600 to 650 psi proved both speedy and economical.

The buildings needed a "face lifting" as well as protection against water damage, freezing, etc., and, according to General Manager George Peeler, the visible results are both a community improvement and an employee-morale booster.

Preparations consisted of cleaning the brick walls, brushing away the lint, etc.

The paint dried where it hit, covered evenly and rapidly, and made a myth of between-coat waiting. The paint fog that often drifts in small, annoying clouds from the spraying scene was conspicuously absent. Ten feet from the point of application there was no spray effect whatsoever.

A contracting firm did the work, using a product that would neither boil nor bubble under the elevated temperatures.

YOU NEED A PERSONNEL TECHNICIAN

You wouldn't hire a personnel man to do engineering; why let an engineer or accountant do your personnel work?

by Robert I. Weil
Personnel Manager
The Puritan Sportswear Corp.

Exclusive

TO MANY owners and managers, personnel work still means hiring and keeping a few simple records. This job is often assigned to the bookkeeper, the time study engineer, or the foreman. Few of these managers and owners stop to calculate the economics of even this most fundamental part of personnel work.

If your plant employs 350 persons, earning an average of $3,200 per year, then your basic annual labor cost is $1,120,000. Add to this payroll taxes and fringe benefits, and your labor bill is over $1,200,000. If a professional personnel department can save you just 1% of this amount, it will have paid its cost, and you will have a greater profit.

But what is a professional personnel department? What about the foreman who has been hiring for years? Or the time study engineer who has a college degree? These men are probably qualified in their own fields. Their fields, however, are not personnel administration.

The personnel technician has a minimum of a bachelor's degree and has taken courses of study in most of the following fields: psychology, labor - management relations, labor economics, statistics, sociology, basic economics and business administration, industrial engineering or time study, and industrial safety. Not every college offers these courses, and relatively few schools of higher learning offer a special course of study for personnel administration.

The man who has graduated in education, accounting, engineering, or general business administration is no more qualified to do personnel work than the personnel major is qualified to be an engineer, accountant, or teacher. The personnel department is not the place to put your ready-to-be-retired secretary. She'll be very expensive there; in fact, a pension would be cheaper.

NOW LET'S SEE just how the personnel technician can save you money: In our plant we estimate that the cost of hiring and training a looper is about $410 to $500. This includes administrative costs of hiring, supervisory time spent on training, and piece work losses until the trainee reaches her production quota. Preventing the loss of trained help is part of the personnel technician's job.

His first contribution to turnover control is in the selection of new workers. In this area the personnel technician has tools which are unavailable to the untrained. For manual operations there are dexterity tests which can predict with a fair degree of accuracy if an applicant has the physical capability to perform a given task. There are visual tests, such as the Bauch and Lomb Ortho-Rater and the Keystone, to measure the visual abilities of an applicant as they relate to a specific job.*

There are tests in the areas of general intelligence, clerical and numerical ability, inspection occupations, mechanical jobs, etc. The selection, application and administration of these test devices require a trained person.

The employment interview, if properly handled, is also a valuable tool in selection, though it is the tool most subject to human error. An interview conducted incorrectly is more than worthless, it may be detrimental. A trained interviewer has the interview under control. He can elicit information without hurting feelings. He can say "no" in the right way. He can properly evaluate the interview, and he does not overestimate the value of a 15-minute conversation.

The combination of testing, interview and medical examination allows the personnel technician to cut down turn-over at the employment stage, by eliminating many of the applicants who do not fit in.

The initial training period can make or break an employee, not only in his job skills, but in determining his future relationship with the company. The personnel technician develops training aids to help both the trainee and the supervisor or instructor. He assists the supervisor in learning training methods. He makes sure that the new employee is made to feel at home in job and company. All of this increases the likelihood that the new worker will learn—and stay.

EMPLOYEE MORALE is important in reducing turn-over as well as in increasing productivity. The personnel technician knows how to gauge employee attitudes. He strives to insure uniform and fair discipline within the com-

*For details of how one group of mills uses these tests, see "Vision Tests Cut Accident Frequency," TEXTILE INDUSTRIES for September, 1958, pages 77-78.

pany. He may act as a liaison between workers and higher management. He can, to some extent, predict the consequences of a given management action.

Skills in the area of wages are of importance to a company. The personnel technician can not only gauge a job to determine its relative value, he can also gather and evaluate information on area and industry wage scales to assist management in setting rates.

In some cases a personnel technician can earn his keep just by keeping on top of unemployment compensation claims. U. C. tax rates are in most states determined on the basis of a company's experience. The mishandling of U. C. claims, or an incomplete presentation of a company's case at a hearing may result in charges against your account which result in a higher payroll tax. Poor handling of your U. C. account may cost as much as 2% of your payroll in additional taxes.

In many plants safety is a problem. Accidents cause production bottlenecks, poor morale, higher insurance rates, personal tragedies. A personnel technician knows how to organize safety campaigns and how to sell safety devices.

IF THERE is a union in the picture the personnel technician becomes absolutely indispensable. A poorly written clause in a union agreement can be a very expensive mistake. Everyone understands the meaning of the wage rates and their consequent cost. But it requires training and experience to evaluate the "small print" of the contract. The seniority clause, if poorly written, can increase training costs manifold, and has in many cases required the placement of unqualified workers on a job.

Whether your contract makes overtime hours voluntary or obligatory has a great influence on the efficiency of your operation, especially during peak seasons. Some unsuspecting employers have signed away their rights to subcontract work, to sell or move their plants.

Lawyers are a help in labor negotiations. But unless they are part of that small group of specialists who are also personnel technicians, they cannot take their place. This is because the union agreement is not only a legal contract, it is above all a set of shop rules.

The day-to-day administration of a union agreement is as exacting and important a task as its negotiation. It is always the personnel technician's duty to handle the everyday problems, even when he has legal aid in negotiations. The way a grievance is handled may mean the difference between labor peace or costly conflict; between damaging precedent and correct enforcement; between settlement and arbitration fee; between profit and loss.

Few laymen understand how a clearly written contract clause can become subverted and changed through repeated misapplication; or how management can permanently abrogate its prerogatives through poor grievance negotiations.

The man on the union side of the table is an expert. You cannot afford an amateur on your side.

PERHAPS you are one of the employers still outside the unions' fold. If so, you may be sure that sooner or later an organizer will be knocking at your plant gate. It may well be too late then to hire an expert, because your personnel program of the years before will, to a large extent, determine the outcome of an organizing drive.

If your workers feel that they have something to gain, they'll probably vote for a union. If they have unresolved complaints, feel underpaid, unfairly treated, and unliked by management, they will go for a union. It is the job of a personnel technician to evaluate your benefits, wages, and policies, and then to sell the package to supervisors and rank and file alike.

Last of all, the personnel technician knows when and where to get expert help. No man can know all about the many different fields that traditionally come under the heading of personnel administration. Only very large companies can employ an industrial psychologist, a labor lawyer, a safety engineer, a medical doctor, a detective, an industrial engineer, a newspaper writer, an insurance expert, a food manager, a professional recruiter, and an economist. In the smaller company, one or two men play all of these roles. The personnel technician knows his limitations, and how to get the best assistance.

In hiring your personnel technician, choose one whose training fits in with your most pressing needs. If your greatest problems are in turn-over and training, seek a man who has emphasized industrial psychology. If your troubles are compounded by a union, look for an individual with a major in labor-management relations. Above all, beware of the amateur who is looking for the "romance of industrial relations."

World cotton consumption exceeded output

■ THE GLOBAL output of cotton amounted to 36,300,000 bales in the 1957-1958 season ended this past July, a decline of 4 per cent from the previous season, Textile Economics Bureau announced recently. World consumption of cotton in the latest season was reported at 38,600,000 bales as against 39,000,000 bales in the previous season.

Looking forward to the world cotton situation for the current season which ends July 1959, the Bureau estimated that there will be a carryover stock of 19,800,000 bales available for consumption or export or both.

For the United States alone, cotton production in the 1957-1958 season just ended totaled 10,862,000 bales, according to the Bureau. This output, supplemented by a carryover of 11,323,000 bales from preceding seasons plus a small "city crop" of 58,000 bales and net imports of 160,000 bales, resulted in a seasonal supply of 22,403,000 bales. As to the distribution of this cotton, domestic consumption was reported to be 8,010,000 bales (off 7 per cent from a season earlier), net exports were 5,718,000 bales (off 24½ per cent), and the carryover to the 1958-1959 season now under way was 8,745,000 bales.

J. W. Robertson, Washington Mills, Fries, Va., led discussion on cardroom problems.

When should you check neps?

The STA discussed this and other problems of controlling quality in the cardroom

Staff report

THE NORTHERN North Carolina - Virginia Division, Southern Textile Association, at its fall meeting in Greensboro, N. C., heard James W. Robertson of Washington Mills Co., Fries, Va., lead an open forum discussion on carding, drawing, and fly frames in which methods of controlling quality were covered.

Practice in one mill is to have the laboratory assistant collect all samples for testing, and samples are taken from the cards about the middle of the grinding cycle in order to get a representative average of the card sliver.

In another mill cards are sampled immediately after setting. After grinding, cards are started in production after setting the doffer to the cylinder; later another man goes about setting the cards. Random tests are made on all cards, and it was found that light grinding does not take enough off the wire to adversely affect settings or operation. Cards are set after every other grinding in this mill.

Another mill grinds, sets, and gets samples from cards for testing, in that order.

A mill spokesman said that the customer expects delivery on the basis of samples; therefore, it is bad business to use the best work produced as the basis for the sample. An average is considered far better, he indicated.

One mill reported checking cards immediately after grinding to be sure the card is set properly so trouble may be detected and corrected without delay and before bad work is made.

IN DISCUSSING how to check neps, one mill man pointed out that the yarn provides the best check point to determine neps, since that's where they count most heavily in terms of quality. But further comment made the point that, while this check is good for some purposes, it does not reveal where neps originate, and so does not serve as a starting point for corrective measures.

All cards are checked in the mill every day to determine as soon as possible when something is wrong, and both sides as well as the center are checked for correct setting, a mill spokesman said.

Hardened-tip card wire was successful in reducing neps on 25-30 cards in one mill, and another mill reported good experience with this type of wire after a year of operation. Nep count was reduced and grinding expense was cut, no grinding being required in a year of service. The average was 10 neps per 36 square inches before the changeover, and this figure was reduced to 8.5 neps per 36 square inches with hardened-tip wire in service. 15% less neps were evident on hard wire samples as compared to a conventional card ground three days before samples were taken.

Metallic clothing gives a lower nep count than conventional, and grinding is done occasionally with the same equipment normally

Division officers who were re-elected, l-r: chairman, W. H. Buchanan, Erlanger Mills, Lexington, N. C.; secretary, Howard Barton, Fieldcrest Mills, Spray, N. C.; assistant secretary, Charles Ward, Highland Cotton Mills, High Point, N. C. Not shown is W. M. Kirby, Wennonah Cotton Mills, Lexington, N. C., who was re-elected vice-chairman.

used, one man indicated. A rock is employed to grind lightly, he said.

The duration of card grinding ranged from four hours to eight hours among those mills discussing this subject. Those grinding at four-hour intervals claimed that the wire was not given an opportunity to get very dull between grindings.

Grinding rolls were re-covered after being used on from 10 to 30 cards, a consensus revealed.

Nylon core licker-in belts were tried with good results, and after a year of service tension was good with no trouble experienced. One mill had been using old loom belts and found they were troublesome on card lickers-in. After changing to new leather belts, evenness was found considerably improved.

THE LARGEST roving package reported was a 72-ounce package on a 7 x 12 frame, running four wraps around the presser and with no change in twist on 0.90-hank cotton roving.

The large packages were on 96-spindle frames; however, a spokesman for the mill said he thought they were overdoing it because nonuniformity of tension was a problem. In this instance a heavier drive had to be used because the large package put a load of about 500 pounds on the chain.

The following officers of the Division were re-elected: W. H. Buchanan, Erlanger Mills, Lexington, N. C., chairman; W. M. Kirby, Wennonah Cotton Mills Co., Lexington, N. C., vice-chairman; Howard Barton, Fieldcrest Mills, Spray, N. C., secretary; and Charles Ward, Highland Cotton Mills, High Point, N. C., assistant secretary.

Elected as additional members of the executive committee were Langdon Joslin and P. D. Merritt.

Pilling—what can be done in the mill to control it

by E. K. Brickenden
Canadian Industries Ltd.

Abstract*

■ PILLS are defined as bunches or balls of tangled fiber on the surface of a fabric; they are held to the surface by one or more fibers.

There are a number of important factors in pilling, from which practical and effective control measures can be developed. These will be listed under four headings—fiber, yarn, fabric, and finishing.

FIBER

Fiber Denier. As denier increases, pilling tendency decreases, and there are fewer fibers to become entangled.

Tenacity. In general, the higher the fiber tenacity, the greater the pilling effect.

Abrasion Resistance. When fiber properties give outstanding abrasion resistance, the tendency to pill is also relatively high.

Cross Section. Varying the fiber cross section has been of little help in controlling pilling.

Crimp. Fiber crimp is greatly reduced in processing; original crimp level has no practical effect on pilling.

Fiber Length. Length plays a relatively minor role in pilling.

Electrostatic Properties. While electrostatic charges do not play a large part in pilling, a condition of pilling may be aggravated by electrostatic pick-up of lint.

YARN

Blend Composition. Although the relationship is not a simple linear one, pilling in a blended fabric increases with increasing content of fibers prone to pill formation. In addition, if the pilling-prone fibers are dyed differently from the other fibers in the blend, the visual effect of pilling will be aggravated.

Diameter (Count). Very effective pilling control can be achieved by using the finest yarn count consistent with fabric requirements.

Plying. Plied yarns are always less prone to pill than single yarns, but little is gained by going above two plies.

Twist. In single yarns, adequate twist levels are important in controlling pilling, and should be as high as the fabric character will permit. In ply yarns, it is more practical to keep the single yarn twist at normal levels while increasing the ply twist.

Spinning System. Since yarns made on the worsted system are more regular and have higher twist than woolen-system yarns, they are less prone to pilling.

Regularity. Thick and thin places in the yarns increase pilling. Use of slub-effect yarns may make control of pilling very difficult or impossible.

Hairiness. Yarn hairiness increases pilling tendency; it is important that these potential pill-forming fibers be removed in finishing.

FABRIC

Structure. Loose structures are far more prone to pilling than firm structures.

Float Length. Floats up to two are usually controllable; longer floats require additional measures of pilling control.

Sley. Enough ends and picks per inch to give a firm hand is most important, although it must often be compromised with other considerations.

FINISHING

Milling. Milling can bring one of the fibers preferentially to the fabric surface, and so is a possible method of pilling control. However, as the fiber surface wears away delayed pilling may be worse than it would normally have been.

Brushing and Shearing. These are extremely effective in preventing pilling, where the type of fabric permits their use.

Heat Setting. Thermoplastic fibers are less likely to be raised to the surface of a fabric which has been heat set.

Singeing. The removal of protruding fiber ends by singeing is an effective and at times indispensable technique; it must be deep enough and thorough enough to remove all projecting ends.

Chemical Finishes. Some resins have been used to prevent pilling, but at the expense of fabric hand. However, the approach has possibilities.

BASIC PREVENTION MEASURES

The factors listed suggest three basic pill-preventing measures:

1. Use of fibers which are difficult to deform and entangle.
2. Use of constructions which minimize the teasing out of fibers.
3. Removal of surface fibers by effective finishing operations.

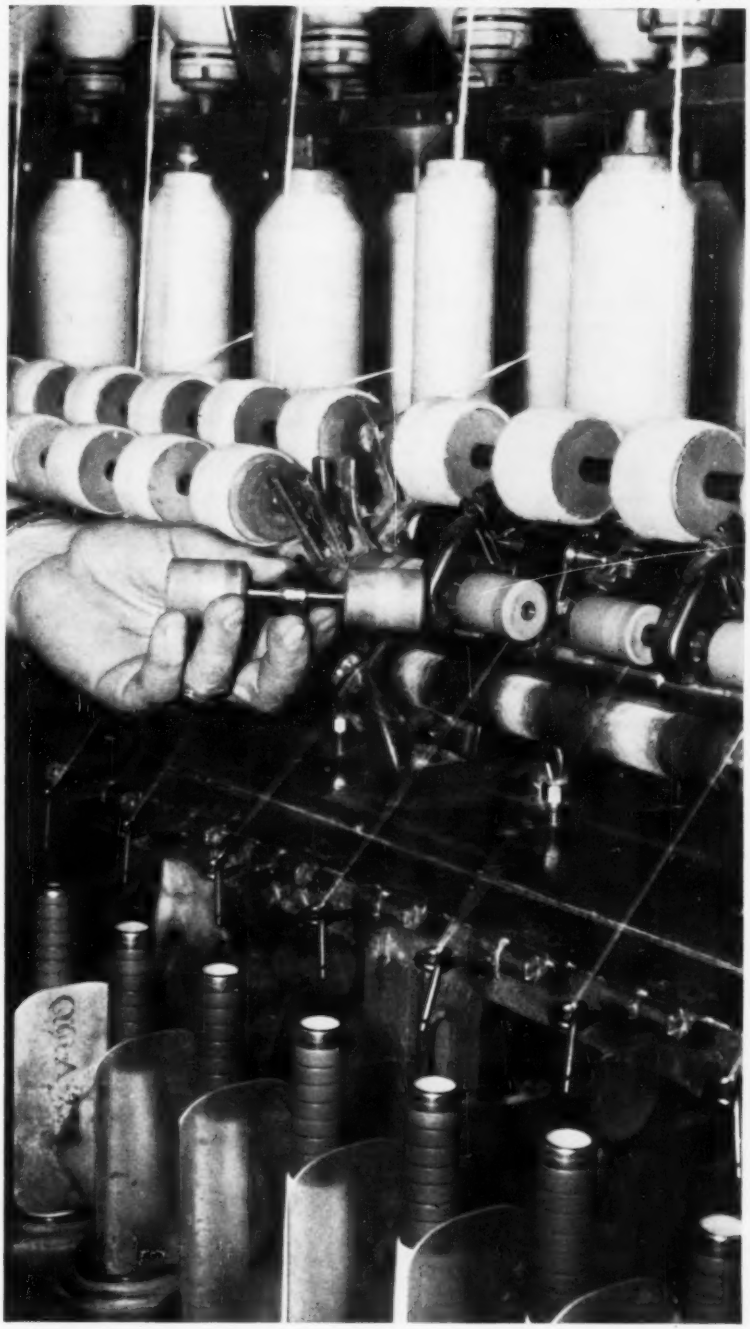
*From a paper presented at the Sixth Canadian Textile Seminar.

Staff prepared

Exclusive

Why they like ANTIFRICTION TOP ROLLS

Clinton Cotton Mills put antifriction top rolls on about 75,000 spindles last year. Now front roll speeds are higher, static has been eliminated, and no lubrication is required.



ANTIFRICTION top rolls on high draft spinning have been producing excellent results for more than a year on approximately 75,000 spindles at Clinton Cotton Mills, Clinton, S. C.

Before the changeover to antifriction rolls, solid rolls and bearings were used, and static was a major problem, in that laps got out of control on the rolls, according to a spokesman for the mill.

Changeover to the new antifriction rolls permitted an increase in front roll speed, and static was entirely eliminated. Production increased along with the increase in front roll speed.

Roving is single creeled, 1.25-hank on a 10 x 5 package, and yarn is spun on a 2-inch ring and 9⅜-inch paper tube. The package of 31s warp goes from spinning room to spooler room for winding on B-C, C-Type spoolers.

No oiling is necessary on the new sealed bearings, thereby solving the problem of soiled work and frozen bearings from lint and fly accumulations. An incidental saving is realized on lubricants formerly required and labor required to apply the lubricant.

Maintenance on the new rolls has been negligible, and an increase in job assignments was possible because of the decrease in laps and ends down. Only a few bearings in the entire installation slipped on the arbor, and these were replaced without charge to the mill. Mill officials were expecting to replace about one per cent of the bearings out of the sizable installation; however, this figure has not been reached.

All mill personnel involved like the new top rolls and performance results, which effect a big improvement over the old rolls. Improved uniformity and a better break factor are evidence of other improvements, according to the mill laboratory reports.

About six weeks time was required to complete the changeover, and no disadvantages have been noted to date.

"The largest production of the best quality at the lowest cost"

Save $$$ with statistics

by Frank Vogel
Consultant on statistical quality control methods

Exclusive

THE SLOGAN above is not original with the writer. He picked it up 50 years or so ago and has ever since used it in his daily work, his lectures and his writings.

It should be the ideal of every supervisor or foreman in the textile industry, whether he be high or low in the ranks of the operating executive staff. The fulfillment of its objectives can be aided by the simpler phases of statistical control methods. Of these, frequency distribution, average and range, and charts, are the principal ones the writer has in mind.

No doubt practically everyone in a supervisory capacity is nowadays more or less informed about these three elements of statistical work, but in order that there shall be no misunderstanding about them examples are given herewith. *Figure 1* shows the frequency distribution of waste picked up in the twisting department from twenty operatives working on identical counts and machine units. The waste in ounces as picked up is 29, 28, 29, 25, 30, 29, 29, 28, 28, 29, 29, 30, 28, 28, 29, 29, 32, 28, 29, 29.

Figure 2 gives an abbreviated tabulation of the weights of some winding packages. *Figure 3* pictures a chart of the weights in the abbreviated tabulation. It shows the mill standard weight and the control limits as calculated from a larger tabulation.

The question might very properly be asked: Where can these simple methods be applied efficiently? The answer: Wherever there is variation.

Specifically, sizings from any process in the carding, spinning, twisting, and finishing departments; strength of single yarns, ply yarns, and cloth; twist at twisting or throwing machines; and faulty work at any process throughout the plant. Weights of cones or other types of packages in the winding department are usually a natural for making immediate savings for the company. Stoppages of machinery or units thereof, in every production department, make excellent subjects for promptly increasing production, and improving quality. In fact, it can be seen from the foregoing that the points of application are legion. Furthermore, the items mentioned by no means exhaust the entire possibilities of application.

Now that the points where statistical control methods may be applied have been noted, the next question is: Who shall apply these methods? And the answer: the supervisors and foremen, by all means. They are the people right on the spot; they know their workers, they know their machines, and they know the faulty work that is made in their departments and also the previous ones.

Statistical methods are the tools the supervisory staff can use to bring about the objectives in the slogan. Every supervisor should be taught the fundamentals, whether by individual teaching or by means of group instruction in the plant under the guidance of an instructor who has a good working knowledge of the elementary phases, and has had supervisory experience.

It has been the writer's experience that it is well also to have some member of the very top level management become an active participant in the first group of supervisors that may be indoctrinated. He thereby becomes an informed intermediary between the very top and the lowest levels of the executive staff. This is very important and may eliminate much future misunderstanding.

Now that the many places of application are known and that the supervisors are the logical persons to apply the statistical control methods, a further question arises: Where shall the methods be applied?

And the answer is quite simple: First, each supervisor must decide what is the most troublesome spot in his section or department. Is it waste, faulty work, quality, stoppages, production? From a psychological standpoint it is best to single out some characteristic that will yield quick and favorable results. Items that are difficult should be left until last. "Nothing succeeds like success" is an old adage that is still in good standing. It will be found that the acquisition of control of one characteristic will make control of another much easier.

One reason why the supervisors are especially well suited to apply statistical control methods is that, in general, they have a good understanding of the working habits of the operatives in their respective charges. Therefore, when a situation arises requiring a bit of tact to handle they know the measures to adopt. To illustrate: let us take the case of the waste collection from the twenty workers previously mentioned. The waste has been arranged in the form of a frequency distribution, *Figure 1*. A glance at this distribution shows the supervisor a rather singular disposition. Two extremes —one a high of 32 ounces, and one a low of 25 ounces—against a close cluster averaging, say, 29.

OZ.	WASTE	FREQUENCY
32	/	1
31		0
30	//	2
29	𝍸 𝍸	10
28	𝍸 /	6
27		0
26		0
25	/	1

Fig. 1. Frequency distribution of waste picked up in the twisting department from twenty operatives working on identical counts and machine units.

Weight in Ounces of Winding Packages

	Groups				
	1	2	3	4	5
	32	27	28	31	28
	31	27	28	27	28
Avg.	31.5	27.0	28.0	29.0	28.0

Fig. 2

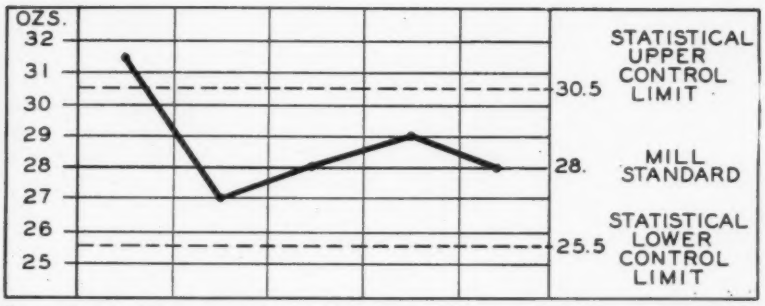


Fig. 3. Graphic illustration of the weights of some winding packages, as given in tabular form in Fig. 2.

With all the workers handling practically the same yarn numbers, with productions about the same, and with other conditions almost identical, why should just one worker have so large an amount of waste? Is it her fault, or is it trouble on the machines? The supervisor knows that ordinarily she is a careful person. This fact gives him a clue as to the course he must pursue so that this worker will get her waste down somewhere near the level of the majority of operatives.

On the other hand he must also determine why another worker should have so little an amount. Is it because she is more careful? Or are her machines running better? Has she in the past ever given him reason to doubt her honesty? And from his knowledge of the worker he knows what line of strategy to follow to assure himself that all is correct in her case. Perhaps her working technique may give a clue as to how the operatives as a whole can reduce their waste.

When there are no very great extremes such as those just cited, the foreman may put up a general chart showing the total amount of waste made each day, and urge the twister tenders to endeavor to bring down the graph line gradually. Waste is a tricky proposition and a move to reduce it must be done tactfully and slowly. If handled in this manner the waste *will* come down.

A few instances of results obtained by the use of the simple statistical control methods cited will point up the way in which savings can be made.

The foreman of a winding department turning out 12-ounce nylon ply-yarn cones had completed the training in statistical quality control methods. He looked around to see where he could apply the methods in his department. His firm, an old established company, had gone into the nylon yarn business and was turning out cones for the hosiery trade. In order to stand in the good graces of its customers it had established a rule that the weight of the cones should never be less than the standard 12 ounces. Now, since it was impossible to turn out cones without some variation in weight it was decided to permit the winding department to over-run the cone weights slightly so that there would be no risk of sending out underweights.

The foreman knew from past experience that the small upper tolerance came to a considerable amount, in dollars and cents, in the course of a year. He made up a frequency distribution of 100 "randomized" cones just to determine the variation between individual cones. It was not a great deal. Next, he made up an average and range tabulation, and developed a chart from it. He calculated the upper statistical control limit. The standard of 12 ounces he set as the lower control limit.

He then suggested to the superintendent that he be given permission to put up the average and range chart in a conspicuous place in the department. The superintendent agreed to have the plan tried out for several months. The foreman than informed the girls that he was going to run a chart showing the graph line of the cones. Three cones per day were to be taken at random from the completed work of each of several operatives and weighed individually. Each worker, of course, would have samples taken from her production.

After all the girls had their turn, the sampling weighing would start all over again. The workers were told of the foreman's plan to bring the tolerance down a little, and they were told of the cost of the surplus weight given away, and also that competition in this product was indeed very keen.

The winders cooperated wholeheartedly and it was interesting to note how eagerly they watched the course of the graph line. Within a period of three or four months the rate of savings through a gradual lowering of the maximum tolerance amounted to several thousands of dollars per annum. By the end of the first year the savings were increased by another thousand or so. All this was accomplished without disturbing the pleasant relations between the workers and the mill—and without short-changing the customers.

Sometimes the reworkable waste in the carding department of a cotton mill becomes a headache. One

mill, in which the assistant superintendent of carding and spinning had been a member of a class in statistical control methods, had such a problem. This type of waste was piling up in the cotton opening department, from the floor to the ceiling. There was a daily grumble from the supervisor in the opening section.

The assistant superintendent decided to see what could be done to remedy this condition by means of statistical methods. Some of his supervisors and foremen had already completed the mill's program of instruction in the use of the methods, so he arranged for them to chart the waste in their respective sections. In six months the man in charge of the cotton opening department inquired from the assistant superintendent if the mill were holding out on him and would they suddenly flood him with the reworkable waste as they had so often done in the past. He was told that there would be no more flooding him. Team work and statistical control methods had brought about a very marked reduction of this type of waste.

The writer could continue to relate case after case where the supervisors, using their knowledge of statistical control methods in that area in which they are completely at home—their own departments—have seen gratifying results brought about through the use of the methods.

One most interesting and enlightening incident occurred a few years ago in a large eastern textile plant. For many months there had been arguments, more or less acrimonious, between the head of one of the mill's departments, and the manager of the mill's print shop.

The mill man accused the print shop of giving him less in the bundles of printed matter, tickets, wrappers, etc., than he was charged with. The assistant manager of the print shop who had graduated from one class in statistical control arranged for a disinterested party to check a few of the bundles of printed matter that were delivered daily to the particular mill department making the complaint. He then made up an average and range tabulation and worked up a chart from it. Shortly thereafter, there were no more complaints of short-changing.

Supervisors and foremen will find that the elementary statistical control methods will be useful to them in many, many ways. However, there may be spots where no results seem to be derived. In such cases, discontinue their use, for it is not expected that the methods will accomplish impossibilities. Sometimes, too, where it is desired to rectify a condition by working back over a number of successive processes in different departments, that could require a long period of time, as, for example, to locate the causes of uneven cotton yarn, it may be well to call in the research department.

Nor is it intended that the walls of the mill be cluttered with charts that have already reached the peak of their effectiveness. When this desirable event occurs discontinue their use, but make an occasional check at intervals, and should the characteristic go astray, reinstate the charts until control is again established.

No one is in a better position to judge whether the characteristics mentioned herein are showing improvement than the foreman or supervisor. The charts tell him the story as the events transpire. When they need attention he is right there to apply promptly the action necessary to rectify an untoward situation, or to call top management's attention to a fault-producing condition over which he has no control.

His charts, too, tell him the story, not of yesteryear, but of today and the immediate past. He gets a forward look, also, of what his charts will tell him in the near future.

Truly, of all persons in the mill *he* is the one who can bring to a satisfactory realization the slogan at the head of our article:

"The Largest Production of the Best Quality at the Lowest Cost"

Wool mills under pressure to deliver goods

■ THE OUTLOOK for increased wool consumption in the manufacture of textiles and knit goods is predicated on suppliers being able to meet short-term delivery dates to retailers, according to Ruth Jackendoff, director of the Wool Bureau's department of Economics and Statistics.

In the Bureau's current report on the "United States Wool Outlook," Miss Jackendoff points out that in the recession period just ended, it was retailer reluctance to replenish apparel stocks that was the major cause of the curtailment of operations in the wool textile and clothing industry.

During this same period, consumers continued to make clothing purchases at the same rate as in 1957—in fact exceeding the figures of last year by a small margin. As a result many stores are seriously short of many items and a race is on to replenish stocks, creating a pressure that is being felt all the way back to the mills.

According to the report, there is a larger potential demand for wool textiles than is reflected in mill orders. However, many buyers deferred making commitments a little too long for translation into finished goods for the fall season. As a result, a squeeze on deliveries from mills to cutters to retailers may develop, particularly for menswear wool apparel.

An examination of average weekly new orders for wool fabrics placed since the first quarter of 1958 through August with 65 firms reporting to the National Association of Wool Manufacturers shows a sharp rate of acceleration in orders for women's wear fabrics, but a slight decline in orders for menswear fabrics, according to the Wool Bureau. This difference in the tempo of men's and women's wool textile demand has already been partly reflected in the production of fabrics.

Second quarter 1958 production of women's and children's wear wool fabrics exceeded the first quarter yardage by 25 per cent while men's and boys' wear yardage gained only 9 per cent. For the first six months, women's wear wool yardage produced was 7 per cent below the corresponding 1957 period, while menswear yardage was 22 per cent lower.

HELP PREVENT PLUCKING – CLEAN AN

Rough and dirty rolls lap . . .

Tear along this line to post in card room

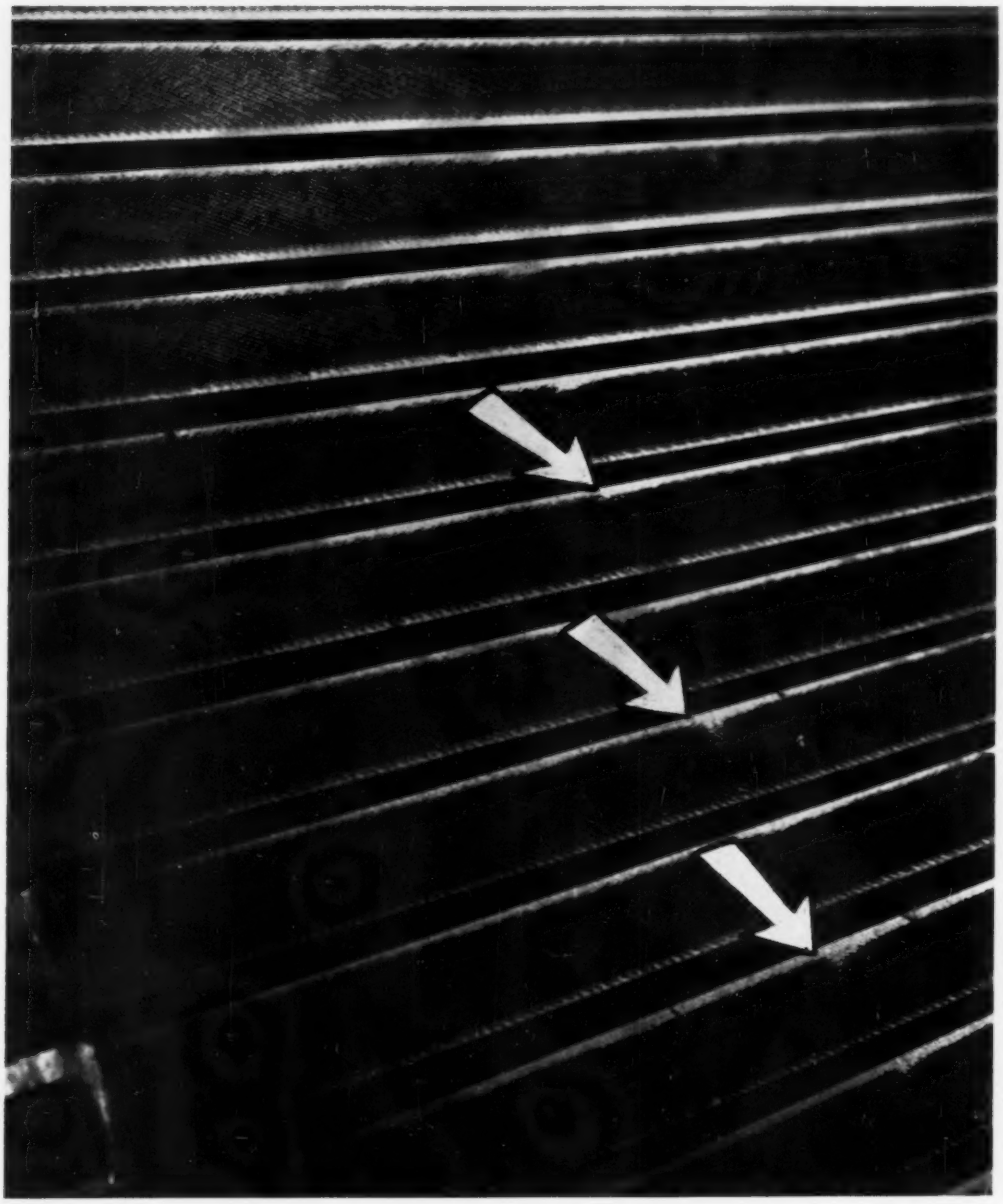
Textile Industries

29

Te

...AND POLISH CARD FEED ROLLS

let lumps do damage like this . . .

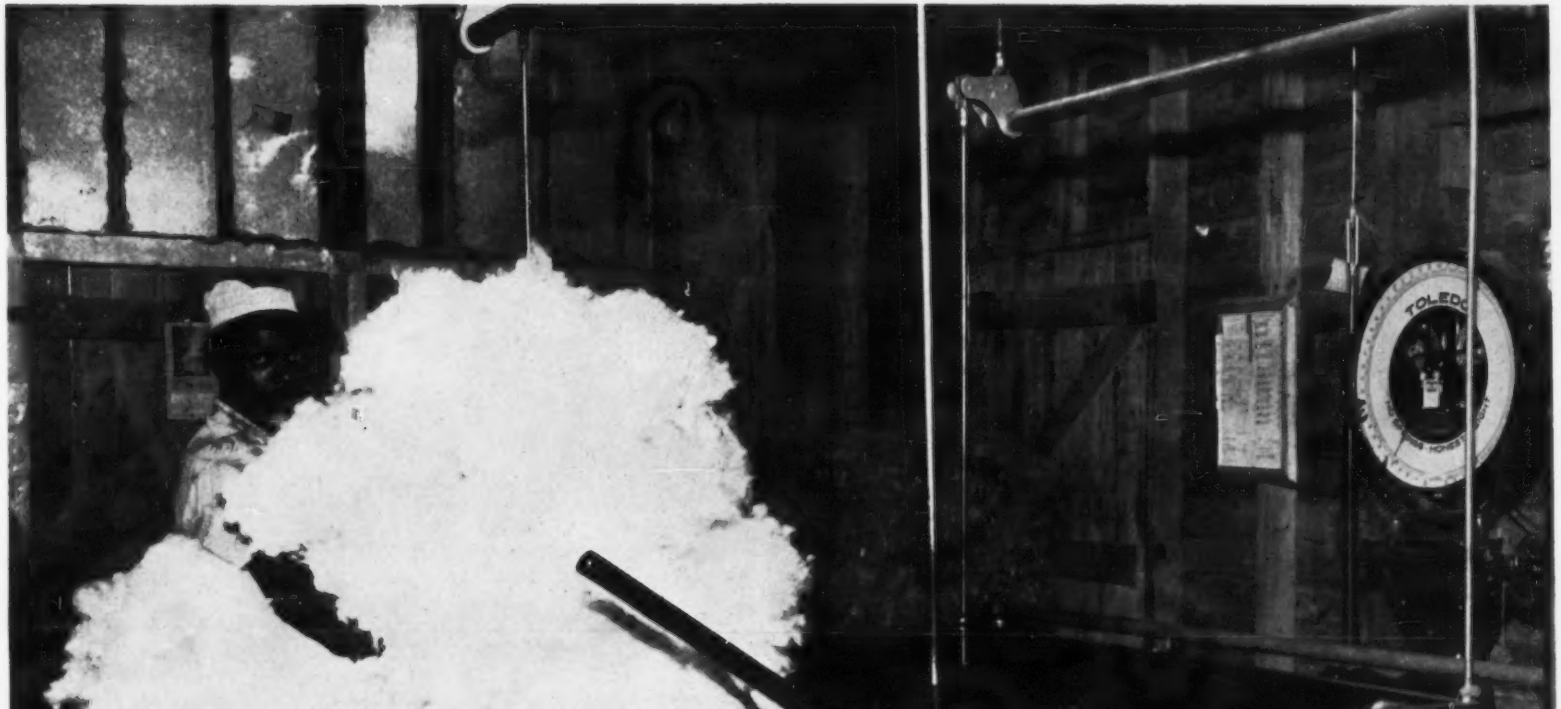


...extile Industries POSTER SERVICE

This is one of a series of manufacturing hints and employee reminders in poster form, designed for placing on mill bulletin boards. Reprints are available: Write to The Editors, "Textile Industries," 806 Peachtree St., N. E., Atlanta 8, Ga.

WEIGH EVERY LOAD, PLEASE

Don't guess at blend proportions



Textile Industries

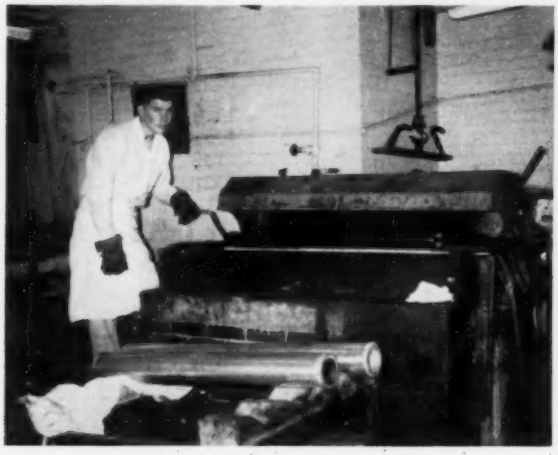
30

Textile Industries POSTER SERVICE

This is one of a series of manufacturing hints and employee reminders in poster form, designed for placing on mill bulletin boards. Reprints are available. Write to The Editors, "Textile Industries," 806 Peachtree St., N. E., Atlanta 8, Ga.

Tear along this line to post in blending department

Corrosive vapors from the acids used in print roll engraving and in removing chromium plating did great damage to the fans and motors used to exhaust the fumes from the working areas. Note the hood used to collect and draw off the vapor from this bath.



A small brick flue and lengths of stainless steel pipe enabled this acid-damaged fan to pull the fumes from the bath and discharge them into the air. Cars parked nearby began to show paint damage. Note destruction to the roof drain pipe in background.

Acid fume damage kayoed

by A. D. Hill—Exclusive

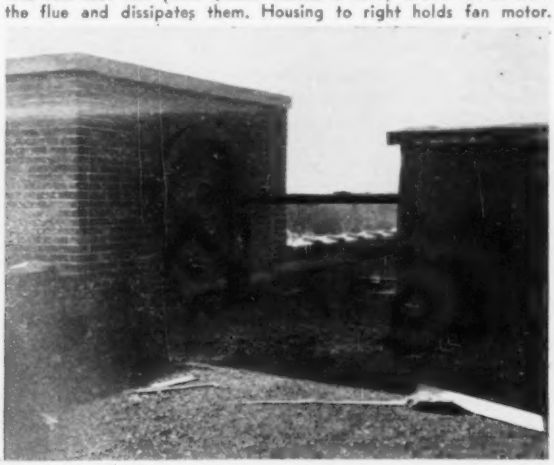
ONE textile finishing plant had a big problem with fumes from nitric and hydrocloric acids, two powerful acids used in textile print roll engraving and in the removal of chromium plating. The fumes caused excessive maintenance on shafts, bearings, and supporting framework on electrical equipment.

Further difficulty occurred when cars parked nearby began to show spots in the paint. The spots appeared heavily at times, and an investigation revealed that the spots on the automobile paint were caused by acid fumes or spray from the acid exhaust systems. Washers, filters, and other remedies were tried to remove the harmful acid fumes but the trouble persisted.

A flue 14 inches in diameter originally was used with a 14-inch centrifugal fan having a 14-inch type 316 stainless steel duct connecting the inlet to the opening in the brick flue. There was a wall 12 feet high near the fan, and a 12-inch diameter stainless

This large brick flue, lined with a protective material, now permits the vapors to be drawn off with no condensation occurring.

This four-foot fan (with rubber-coated blades) draws fumes from the flue and dissipates them. Housing to right holds fan motor.



steel vertical discharge duct was added to the fan to dissipate the fumes over this wall.

Investigation revealed that the fan and its inlet and outlet ducts were acting as a very efficient condenser of the moisture in the air and fumes from the etching room. These fumes collected somewhere in the fan and duct arrangement, and the acidified condensate was picked up by the fan and thrown out as a mist. The condensate caused the paint damage on the cars and gave rise to the subsequent complaints.

Plant engineers concluded that eliminating the condensate and exhausting relatively dry fumes to the atmosphere would be the solution to the problem. Study led to the conclusion that a large brick flue would be best. Also, a large fan without any ducts or metal that would create a condensing effect should be used.

Another story had been added to the building adjacent to the exhausting area several months prior to the occurrence of the problem. The new flue was made to go over the roof of this additional story, and a fan was installed. Now only dry fumes are exhausted.

The new fan and brick flue installation is completely coated for protection and is arranged so that motors, drives, and supporting framework are protected from exposure to the fumes. Results: no more complaints, no trouble, and less maintenance.

U. S. fiber consumption per person lowest in 13 years

■ THROUGH June of this year U. S. per capita consumption of cotton, wool, and man-made fibers was proceeding at an annual rate of 30.4 pounds, a figure 6 per cent below the 1957 rate and the lowest per capita consumption rate reported since 1945, the Textile Economics Bureau announced recently.

Only a slight decline is indicated in the usage of cotton (from 20.4 lb in 1957 to 20.1 this year), but relatively larger declines are shown for wool (from 2.6 lb last year to 2.2 this year) and man-made fibers (from 9.4 lb to 8.1 lb), according to the Bureau.

For a proposal to increase consumption of textiles; see page 53. —The Editors.

New textile research facility—radiological lab at N. C. State

■ "AN EXTREMELY powerful research tool" was added to the textile industry November 3 when the School of Textiles at N. C. State College, Raleigh, announced establishment of a $96,000 radiological laboratory at its Research Center. William A. Newell, director of the Textile Research Center, reported that the Atomic Energy Commission will support research at the laboratory over a three-year period.

The total project is expected to cost approximately $275,000 with the AEC supplying 80 per cent of the funds. The college has begun negotiations with four major textile firms for the remaining 20 per cent of the cost.

The laboratory will be used for teaching and research in industrial radiation, specializing in fibers and textile manufacturing. Scientists will study what happens to fibers exposed to nuclear radiation.

Mr. Newell said that a shipment of highly-radioactive cobalt-60, supplied by Atomic Energy of Canada, Ltd., was being sent to the college. The cobalt shipment and its lead shielding weighs 8,000 pounds and contains 2,300 curies of cobalt-60. A curie is a measure of activity of a radioactive substance. Total value of the shipment is $24,000. This amount of cobalt-60 will, when new, produce 85 quadrillion or 85 million million gamma rays per second. It will be the only gamma source at State College and will be used in the laboratory to bombard textile materials under study in the Research Center.

The Atomic Energy Commission's interest in the project, Mr. Newell explained, is to find industrial use for radioactive materials created by the giant nuclear reactors being constructed in this country to provide electric power. He compared these radioactive substances to ashes and clinkers taken from a furnace. They must be disposed of, he said, and the AEC is seeking ways to put them to industrial use.

The proposed study will cover four areas of potential applications at State College. They are:

1. Modification of fiber properties by irradiation.

2. Modification of fiber and fabric properties by polymerization of finish monomers by radiation.

3. Use of beta gauges for measurement and control of textile processes.

4. Use of radioisotopes as tracers, and employment of activation-analysis techniques in textile processing.

As an example of how such studies can be of help to textile mills, Mr. Newell said that if resin finishes could be applied through use of radioactive materials, fabric degradation would be eliminated.

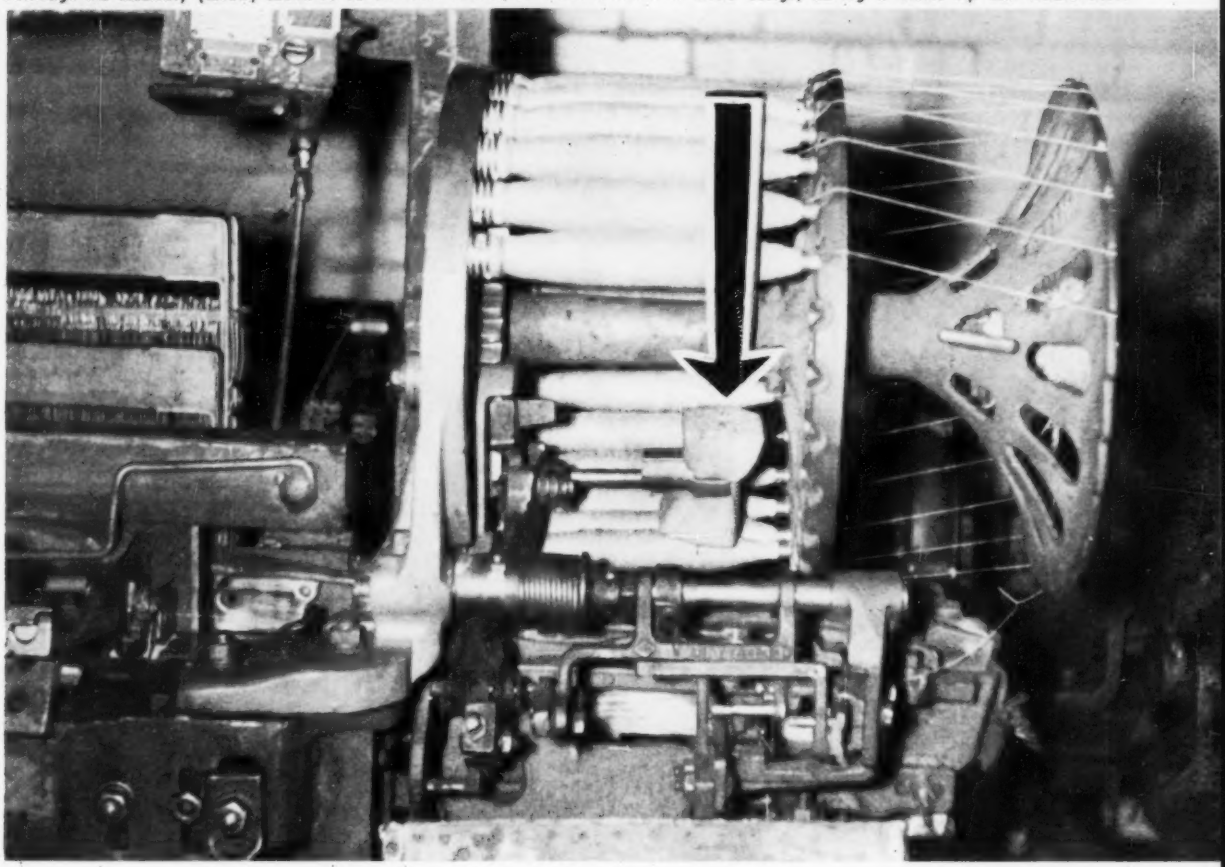
He explained that by exposing fibers to nuclear radiation unusual transformation in molecular structure can be brought about. Some physical properties can be altered to improve an end product, and studies can be made involving measurement or tracing on a production basis.

"These techniques," Mr. Newell explained, "can be useful in studying blending efficiency, amount of uniformity of wet pickup, studies of wear or corrosion, identification of products, and in abbreviating many lengthy analytical techniques."

In addition to Mr. Newell, principals in the radiological research activity include Dr. Malcolm E. Campbell, dean of the School of Textiles, Henry A. Rutherford, director of chemical research, and Otto Teszler, head of radiological research.

The $96,000 laboratory, designed by Mr. Teszler, is comprised of offices, a decontamination room, counting room, waste-disposal area, and a large research laboratory. The research laboratory is divided into an application area into which full-sized equipment can be brought for use in projects; an area in which isotopes can be handled under optimum safety conditions; and a high-level radiation laboratory which houses a self-contained multi-kilocurie gamma source. Total floor space is 1,825 square feet.

Although the assembly (arrow) seems to be all foam rubber, it is conventional in basic design, having a metal tip not visible here.



No broken quills in 6 months

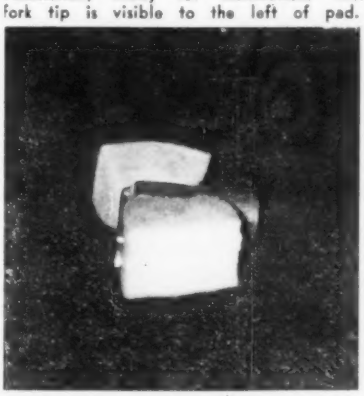
Staff prepared Exclusive

FOR MORE than six months a group of 40" Model E looms producing 80 x 92 print cloth 120 hours per week have not broken a single quill. The secret is in the form of a transfer fork equipped with a foam-rubber bumper.*

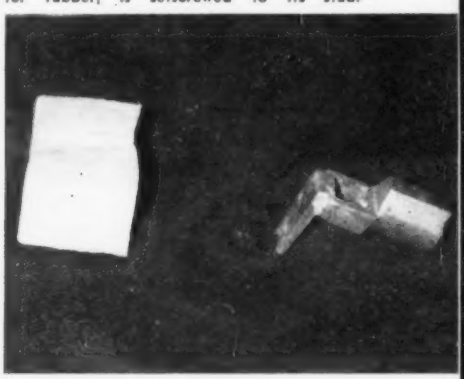
The partially exhausted filling packages that are plugged back into the magazines of looms set to transfer on broken picks pose a transfer problem—the fork and quill do not always meet as planned. As a result the quill, shuttle, or a loom part is sometimes broken in the mix-up. The new fork permits a measure of control over the bare quill by letting the rubber contact the quill ahead of the fork. It does not interfere in transferring full packages.

The assembly may be installed in a matter of minutes. In some instances, however, the fork stud may have to be replaced with a longer one.

Assembled, ready for installation. The fork tip is visible to the left of pad.



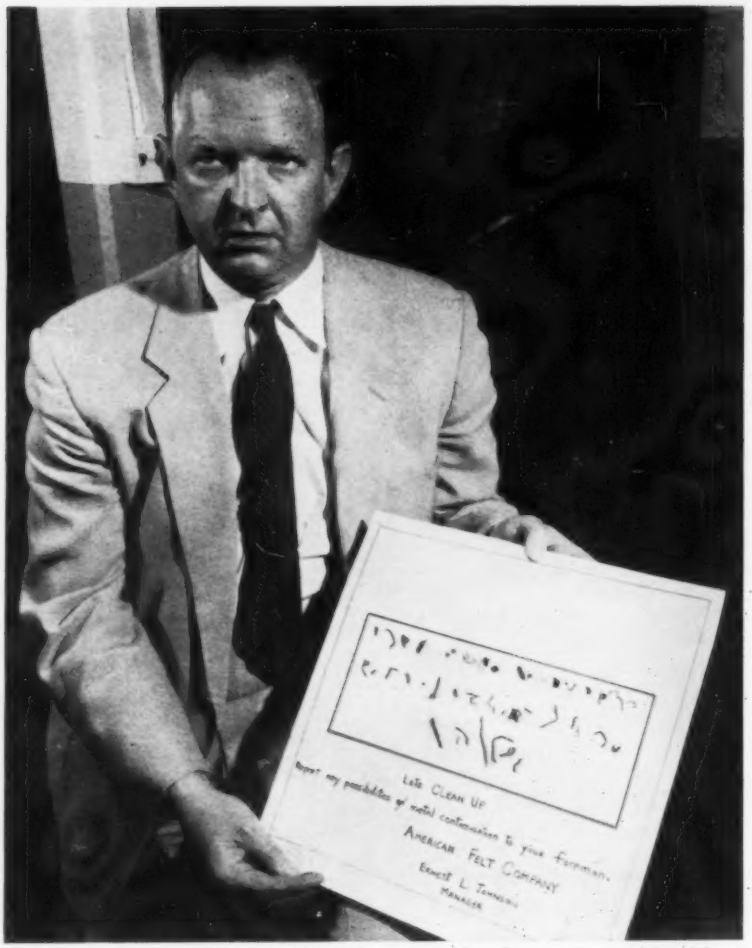
The new fork, elongated to make room for rubber, is setscrewed to its stud.



*Patented, the device is available only through John Addis, Easley, S. C.

"We boosted customer confidence"

by using equipment to insure delivery of metal-free polishing felt



Metal fragments which the metal detection apparatus has discovered are exhibited here by American Felt Co.'s Glenville, Conn., plant manager, Ernest Johnson.

Exclusive

SINCE its installation an electronic metal detector at American Felt Co.'s Glenville, Conn., plant has enabled the company to detect "tramp" metal in sheets of wool and hair polishing felt. This has made possible the rejection of these sheets at final inspection, avoiding product and economic loss by consumers who polish brass, plastics, optical lenses, and glass.

Until the detector was installed the Glenville plant had to depend solely on high powered magnets to safeguard against metallic contaminants. However, there was literally no way of guaranteeing that fragments of nonferrous metals or bits of wire from card clothing or similar processing equipment had not become imbedded inside the felt during the operations of picking, blending, and carding.

An unidentified bit of wire (magnetic or nonmagnetic) measuring as little as one-eighth inch in length and 0.001 inch in diameter is now instantly detected. Since its installation the detector has trapped card and fancy wire, babbiting from bearings, fragments of raw stock baling wire and other mysterious bits of twisted metal, any one of which may be a potential source of damage to polished plate and mirror glass, stainless steel, plastics or optical lenses.

After a bit of metal is detected, American Felt not only completely rejects the offending sheet, but pulls it apart to reveal the culprit metal. Each of the metal pieces has been saved, measured, and mounted on display as evidences of American Felt's regard for its high quality.

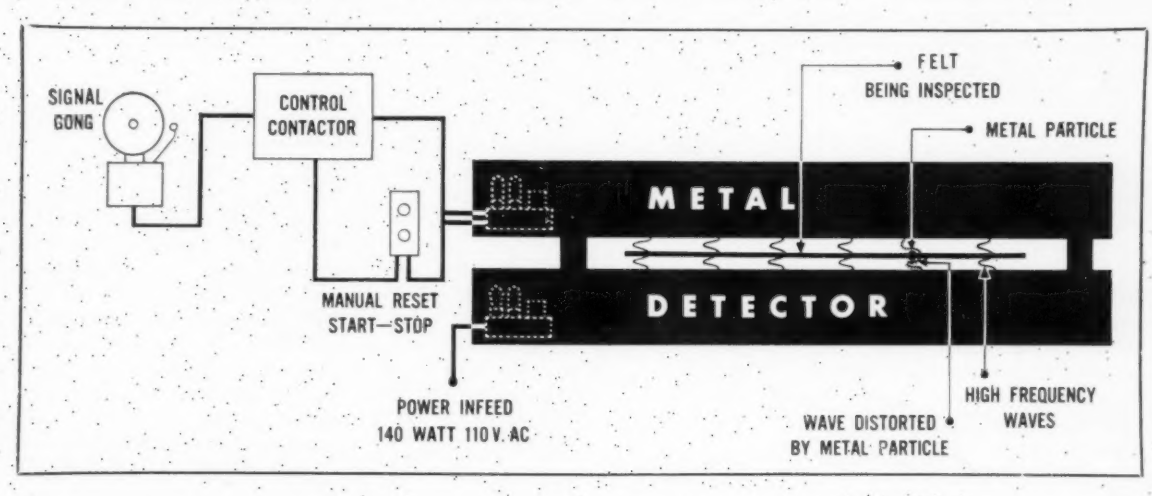
The Glenville mill is not using its detector on a conveyor system. Several hundred bulk sheets of felt are passed by hand through the detection system daily, and should an invisible particle of metal be inside the felt a bell rings. That felt sheet is then discarded as a reject and destroyed.

Discussing the merits of the detector, Mr. Johnson says, "Aside from the immeasurable benefits of metal-free felt to our customers, the important thing to us is the increased confidence our customers have in our product. Since tramp metal no longer turns up we can claim the very best quality with a high degree of self-assurance."

The metal detector consists of two box-like compartments (heads) separated by spacer blocks to form an opening called the inspection aperture. The felt to be inspected is passed through this

ILLUSTRATIONS COURTESY RADIO CORPORATION OF AMERICA

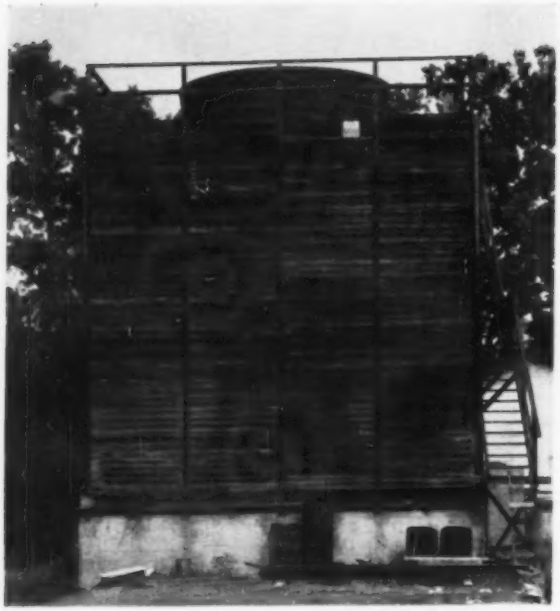
Sheets of felt are passed by hand through the detector, as shown here. Should a particle of metal be inside the felt, a bell rings. How the metal detection system works is shown in the schematic drawing reproduced below.



aperture where it is continuously scanned by a high-frequency electromagnetic field—radio waves travel through the felt to search for foreign-metal particles. When metal is present to distort the radio waves, a reaction is caused that is employed to ring a signal gong.

The lower head of the metal detector is called the oscillator; the upper head the detector. The oscillator acts as a transmitter of radio waves; the detector as a receiver.

Felt up to 64" wide can be inspected. Eventually the firm plans to use the detector in conjunction with a conveyor belt which could operate at speeds up to 1,000 feet per minute.



Save water and trouble

Putting a cooling tower in the compressor cooling water circuit results in some changes that call for careful checking

by Dan McConnell

Exclusive

IN LOCATIONS where cooling water is not plentiful, or is quite expensive, it is often necessary to operate air compressors and aftercoolers on water supplied from a cooling tower with pumped recirculation. The heat loads and temperature balances of cooling towers on this service contain a few factors that are not easily available or commonly considered.

Compressor and aftercooler manufacturers generally give the water requirements of their units on the basis of a certain number of gpm per 100 cu ft of air handled, and the information on the allowable temperature rise through the machinery is not too clearly given. A major manufacturer in this line shows in his manuals that for a single-stage machine compressing air to 100 psi the water requirements are 1½ gpm water per 100 cu ft of air compressed with the aftercooler and the compressor piped in series and using the same water. They also state that their aftercoolers bring air out of the cooler at a temperature of 15 F above the temperature of the incoming water. For compressors working at 25 psi the same manuals call for 0.6 gpm per 100 cu ft.

The data also show that these quantities are based on an incoming water temperature not less than 65 F, and it is suggested that cooling water come off the compressor at approximately 100 F, but this temperature can be carried up to 110 F without damage to the compressor. This information does not contain all of the factors necessary to choose a cooling tower. We must have information on the total amount of heat picked up by the water, water quantity, and temperature rise.

The prime purpose of the water circulated through the compressor cylinder jacket is to keep the cylinder and valves cool enough for lubrication to function properly. An additional purpose is to pick up friction heat, and do as much cooling on the air being compressed as is possible. Since the air is in the cylinder a very short time, there is not much pickup of the heat of compression, and it is the job of the aftercooler to get this out.

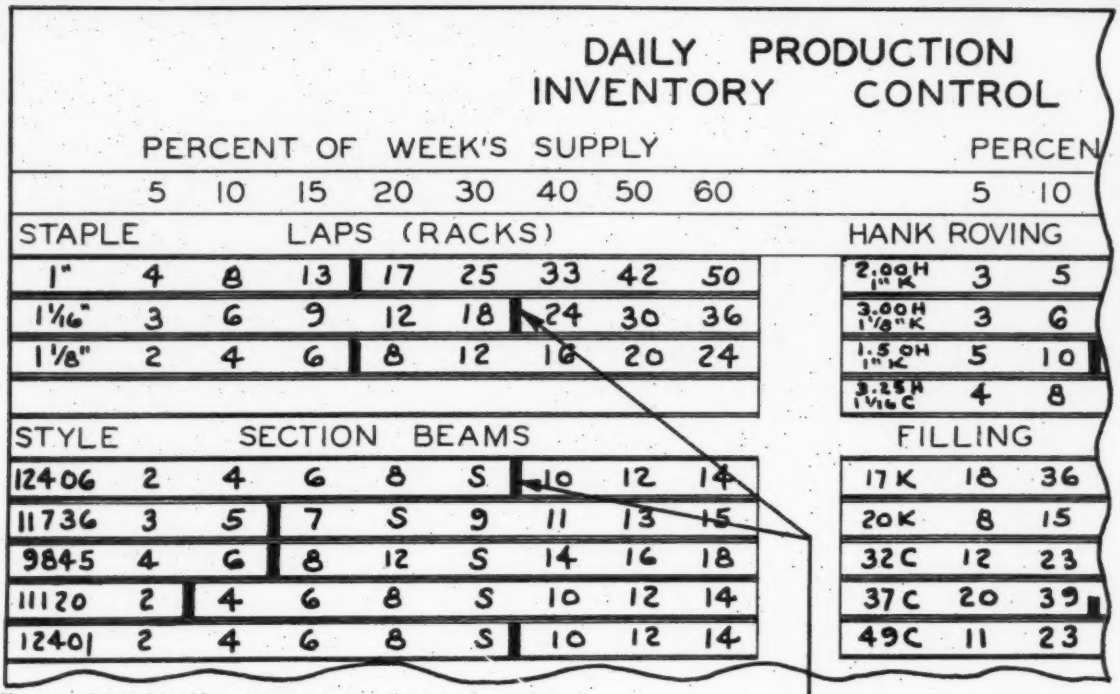
Since the main purpose of an aftercooler is to remove moisture from the compressed air, the efficiency of this removal is a function of the temperature of the cooling water. Since water from a cooling tower will probably be hotter than well water, we must recognize that more water will have to be dealt with in the air distribution system when the compressors are on a tower rather than a well.

This effect is compounded in the summertime by the higher humidity of air taken into the compressor, and a higher temperature of cooling water fed to the machinery. It all adds up to at least doubling the frequency of blowing down the water traps on the system in the summer.

Example. As an example, consider a horizontal, single-stage machine such as an Ingersoll Rand ES-1, 20″ by 13″, operating at 25 psi and delivering 1132 cfm. This machine is rated at 108.0 brake horsepower or net mechanical power put in at the flywheel. A 100-hp electric motor would probably be used to drive the machine, and all of the electrical losses in the motor and mechanical losses in the V-belt drive would be released as heat to the air of the room the machine is in.

Then, of the 108 hp delivered to the compressor flywheel, some 6% to 10% is used up in friction losses in the frame of the machine and also appears as heat in the room. The balance goes into the piston rod and appears as heat and pressure in the air compressed.

(Continued on page 123)



The control board enables management to tell at a glance the inventory at each major processing stage in the plant. The percentages written across the top of the board—5 per cent, 10, 15, etc. — are in effect column headings for the amounts entered underneath them. Thus, in the section designated "Laps (racks)" the figure "four" entered under the five-per-cent column tells management that four racks of laps of one-inch staple are sufficient for five per cent of a week's run. The vertical, black stripes are movable markers used to indicate the amounts on hand. Thus the marker between 13 and 17 (top left) shows 15 racks on inventory, not enough for a 24-hour run. The board is posted daily and is reconstructed to keep abreast of production changes in the plant.

Avoid production bottlenecks with an

INVENTORY CONTROL BOARD

by Marcus C. Gross
Exclusive

ONE of the better methods incorporated in production control systems is the use of a daily production inventory control board, the primary purpose of which is to prevent overproduction and to correct impending shortages.

Bottlenecks thus are immediately visualized and corrective measures set up before such restrictions become serious factors to the steady and controlled flow of stock. The control board is not an over-all planning system—it is set up solely as a guide for day-by-day checking and "spot" control of the designated major process units.

This method of control reveals at a glance the daily, and in some instances, the weekly requirements of these units from the picker laps through to loom beams. Major processing units are predetermined by production control or by the superintendent, with assistance from the overseers of the various departments.

The successful control of the board depends upon the full cooperation of every department, and the accuracy of the daily submitted reports of stock on hand. These reports are transcribed immediately to the control board, and action taken at once to correct any abnormal condition noted.

The control board illustrated herein is similar to one used for many years by a large eastern mill. Prior to its use bottlenecks, overages, and shortages were not uncommon. With its use they practically disappeared.

The over-all control of the board rested with the superintendent, assisted by a production clerk-secretary who handled the daily submitted reports and posted such information on the board.

At early morning conferences between the superintendent and overseers, the control board played a prominent part in the discussion of the day's production needs, immediate or otherwise.

This particular board was approximately five feet long and five feet wide, but no exacting requirements are necessary—only those that are suitable for any given mill's needs. Grooved tin holders (or any light metal) can be used for the paper inserts and should be at least 5/8" wide.

The control board was originally designed to list daily requirements of the major process units under a graduated percentage scale. Thus 20 per cent on the percentage scale indicates a day's supply on a five-day-week basis, and if the indicator is directly beneath 20 per cent it simply means a day's supply of stock is on hand and stock is in normal flow.

Safe operating ranges within designated percentages can be set

by any mill to suit its particular requirements. Section beams and loom beams are listed in lieu of warp boxes, cheeses or spools. But this control was exercised by constantly checking beams on hand against roving figures, and the reports of warp boxes on hand submitted to the control but which were not posted.

Again, if an abnormal condition was noted here, a conference of all interested parties was held at once.

Coding and Filling In. The code listed on the control board indicates that "K" means carded stock only; "C", combed stock; "S", on the inserts under "Section Beams," indicates section beams per set; and "W" indicates weekly requirements of loom beams. Styles, roving hanks, staples, filling counts, and figures listed on the inserts are symbolic.

Certain production data are necessary to set up the board. The first of such information is total production of assigned looms on all styles from yards converted to pounds of stock required plus full added waste factors.

The beginning point is the picker department, and the production clerk ascertains 60 per cent of the total weekly requirements of each staple.

The 60-per-cent totals in pounds are then converted to "racks." For example: the weekly requirement of one-inch staple is 30,000 pounds. Sixty per cent of that figure equals 18,000 pounds, a three-day supply. A rack contains eight laps of 45 pounds each or a total of 360 pounds per rack. Thus a total of 18,000 pounds represents 50 racks. A twenty-four-hour supply in racks equals approximately 17.

The board is arranged to reflect the number of racks equivalent to 5 per cent of a week's run, 10 per cent, 15 per cent, 20 per cent, 30 per cent, 40 per cent, 50 per cent, and 60 per cent. The same percentage figures are used for roving, filling, etc., the equivalent amounts in boxes, etc., being entered under the appropriate percentage figures.

Roving (in boxes) as illustrated on the board, indicates finished roving, roving sent directly to the spinning department, and may include roving from the first and second intermediates, but not roving that has to be processed on another intermediate for finished roving.

Roving weights in this plant were 9″ x 4½″ (20-oz packages) and 7″ x 3½″ (10-oz packages). Boxes held 98 bobbins (122 pounds) and 160 bobbins (100 pounds) respectively. Filling per box weighed 15 pounds and 17 pounds and warp yarn per box weighed 20 pounds. These averages were determined by weighing the box and empty bobbins for tare and substracting tare from gross weight (box and full bobbins) for net weight of yarn.

Interpreting Postings. Indicators on the inserts were of two colors (only one is shown in illustration), one to indicate the previous day's supply and the other to indicate the present day's supply. However, that was optional, the important item being the present day's supply.

What is meant by safe operating ranges? The plant operated at various periods on a three-shift basis, and a 16- to 24-hr supply was determined as a safe operating range.

For example: If an entry of 60 boxes of filling was directly beneath the 20 per cent figure, it indicated a full three-shift (24-hr) supply.

A safe operating range therefore would be between approximately 14 per cent to 20 per cent. On a two-shift basis the safe operating range was between 12 and 16 hr.

Thus 40 boxes would be under the 20 per cent figure, and the safe operating range would be between 15 and 20 per cent. These ranges, of course, are subject to changes, and the immediate needs and requirements of a mill would determine this factor.

When unbalanced fluctuations appear on the board, a bottleneck may be impending. If beams, roving, and filling on a given style show a sharp increase above the normal, the indications will point to a possible serious loom stoppage.

Excess bobbins and boxes are being tied up. In one instance a filling yarn was given a boost when the board indicated a shortage was impending and the roving indicated above normal.

Absenteeism had idled a few frames, and when that condition was indicated on the board, the idle frames were immediately started up and a couple more frames added to give the filling a boost.

In a few weeks the reverse was the picture—roving went down below the normal and the filling began to soar. When the filling reached the normal the extra filling frames were not taken off, with visual results revealed on the board. The board, acting as a watchdog, headed off what might have become a serious bottleneck.

The board is only changed when looms are increased or decreased on given styles, or when new styles, staples, hanks, and filling counts are added. Again, the board is changed if the work week is increased or decreased.

Though daily requirements will be the same, percentage figures will vary. Thus a mill on a five-day week, deciding to go on a four-day week, would have to change the inserts to correspond with new percentage figures.

For example: If a mill's requirements were for 100 boxes of filling for a full five-day week, on a given count, it would be indicated on the insert as 60 boxes underneath 60 per cent and 20 boxes underneath 20 per cent.

On a four-day week the 20 boxes should be listed under 25 per cent, a day's supply. If it is only temporary it can be waived, because the figures under 20 per cent are still a day's supply regardless of the percentage.

The main thing is that these facts will present themselves if such changes occur, and flexible control may be the answer.

Once all the production data have been compiled and the board placed in operation, very little physical effort is involved to maintain it, merely new postings each morning; even in complete changes the compiled data expedites the change rapidly. The board should be placed in an area convenient to all line officials who wish to check it at any stage of the work day.

Blend to save money

as well as for quality and improved performance, TQCA members are advised

POSSIBLE SAVINGS USING TWO BALES OF LOWER GRADE COTTON IN A 33 BALE MIX

COTTON NOW BEING USED:	COST	
MIDD. COLOR SLM LEAF ----------	125 POINTS ON DEC.	
COTTON ONE GRADE LOWER:		
SLM COLOR LM LEAF ----------	225 POINTS OFF DEC.	
DIFFERENCE PER BALE ----------	350 POINTS X 500 LBS. =	$17.50
DOLLAR DIFFERENCE FOR 2 B/C PER MIX		X 2
	TOTAL GAIN ON COTTON	$35.00
	TOTAL ADDITIONAL COST	20.71
	NET GAIN/SHIFT	$14.29

COST OF ADDITIONAL LABOR
@ $1.25/HR X 8 HRS. = 10.00

COST OF ADDITIONAL WASTE
32 LBS. @ $0.3348 = 10.71

20.71

NET GAIN PER YEAR FOR 3 SHIFT, 5 DAY WEEK, 50 WEEKS PER YEAR = $10,717.50

Hugh G. Neil, Special Instruments Laboratory, Inc., was chairman of the technical session on Thursday.

William N. Lilly, Cone Mills Corporation, was chairman of the technical session on Friday.

Staff report

BLENDING within fiber types for all-cotton processing poses three distinct aspects: (1) Why blend? (2) What to blend? (3) How to do it? Dr. James C. Barnes of the Kendall Co., proceeded to explain these aspects at the fall meeting of the Textile Quality Control Association held recently in Asheville, N. C.

The general answer to "Why blend?" is that blending is an integral part of the program of all mills to obtain and maintain a desired level of operating cost and quality. More specifically, the purpose is to control variations and cost of raw materials which are more critical than formerly because of the fewer doublings used in the mills.

"What to blend" is limited to properties economically feasible to measure, and the mill must select and control characteristics with the most influence on the desired end product.

"Good blending" is defined as that condition when each fiber characteristic is found in each cross section of yarn in proportion to its presence in the mix, Dr. Barnes indicated.

The minimum number of bales in a mix is directly related to the number of fiber properties to be blended, and on the proportions to be used. Some less obvious factors that influence the number of bales in a mix are the variability within and between bales, the associated errors of sampling and testing, and the fact that there are always unmeasured and uncontrolled properties of cotton which influence operating level and end use performance.

The average variability will be less when more bales are used, and the variation is in proportion to the square root of the number of bales. Thus, to reduce in half the variation inherent to a 12-bale mix, it is necessary to go to a 48-bale mix. The problem is to determine the break-even point in arriving at the appropriate number of bales in the optimum mix, Dr. Barnes concluded.

Jim Little of Anderson, Clayton & Company, presented a paper on "Blending For Quality and Uniformity of Production."

Blend to Save Money. Blending for quality and improved performance should be reason enough to convince all concerned that an adequate blending program is not only desirable, but necessary, Mr. Little declared. However, there is a third and equally important reason which may have more appeal to management—that is, blending to save money, he pointed out.

"Many people take the position

that additional cost of exact blending cannot be justified by lower costs; we believe this can be disproved," Mr. Little said.

"First, let us set up a theoretical print cloth mill which consumes 99 bales per day, or one 33-bale mix per shift. This mill uses what used to be the more-or-less standard print cloth cotton—Middling color, Strict Low Middling leaf, 1-1/16" staple.

"Let us assume that this mill has decided to try to blend in two bales per mix of SLM color, LM leaf, 1-1/16" staple, or one full grade lower than their regular cotton. In order to be assured of proper blending, the mill has added one additional man to the opening room crew.

"In the box [on page 113] is shown the potential savings from such a blend. Actually these figures are on the conservative side. The figure of $1.25 per hour is probably on the high side for opening room help, and we have not allowed anything for the resale of additional waste.

"The difference in quality is not out of line. . . . For each additional bale of lower grade cotton added to the mix, the additional annual savings would amount to approximately $9100.00. Other mills may find that they can obtain similar savings through the use of lower Micronaire, off-color, or shorter staple cotton which will not affect the quality of their finished product."

High and Low Micronaire Cottons. Louis A. Fiori of the U. S. Dept. of Agriculture's Southern Regional Research Laboratory described the first phase of an incomplete study on the results of blending cottons with high and low Micronaire readings—the effects on properties of single yarns. The possibility of blending low and high Micronaire reading cottons was studied as a step in increasing the use of non-tenderable immature cottons in the blended form, Mr. Fiori explained.

Four cottons having Micronaire readings of 3.0, 4.0, 5.0 and 6.0 were used. The 3.0 and 6.0 Micronaire reading cottons were blended in proportions of 60%-40%, respectively, resulting in an average Micronaire reading of about 4.0. This synthesized blend was compared performancewise with a natural 4.0 Micronaire cotton.

Also, a synthesized blend was made into a 5.0 Micronaire reading cotton and yarn quality comparisons made against a natural 5.0 Micronaire reading cotton. The 4.0 Micronaire reading cottons (synthesized and natural) were processed into a sheeting material (64 x 64) which is to be finished.

In general, average nep count, yarn properties, and ends down in spinning were similar for both the natural and synthesized 4.0 Micronaire reading cottons, Mr. Fiori reported. Suspected fiber migratory trends in yarns made from the blended cottons were not substantiated through microscopic examination.

Results of the study indicate that use of proper blending techniques may provide spinning outlets for utilizing non-tenderable and difficult to merchandise cottons based on Micronaire reading, Mr. Fiori concluded.

Quality Control in Warp Preparation. John Seydel of Seydel-Woolley & Co. explained how loom stop surveys combined with weaving observation and with the size formula modifications indicated help quality control in warp preparation.

The accuracy of loom stops has been determined by the Shirley Institute to be such that, to compare two different formulas, all other circumstances remaining the same, if 1,400 loom hours are checked on each formula, a difference of 20 per cent or greater must be observed to be significant. 6,000 loom hours are necessary to make a 10 per cent difference significant, and 24,000 loom hours for a 5 per cent difference to be significant, Mr. Seydel said.

As fiber, weather, and mill conditions vary too much to permit 24,000 loom hours of checking, or even 6,000 hours, decisions made as a result of these tests must be made with the realization that it is possible the better formula was rejected, he continued.

Warp stops should be divided into four major groups, as steps that are taken to reduce stops in one group often increase stops in another group.

Group 1 includes matt-ups, tangles in shed, fuzz balls between reed and harness, and similar defects.

Group 2 includes weak yarn and unknown causes of yarn breakage.

Group 3 includes knots, gouts, slubs, sized lint buttons, and those cutting adjacent ends or not weaving through; also, crossed ends, stuck ends, loose ends, and ends out of lease.

Group 4 includes wild yarn, kinks, and slack ends.

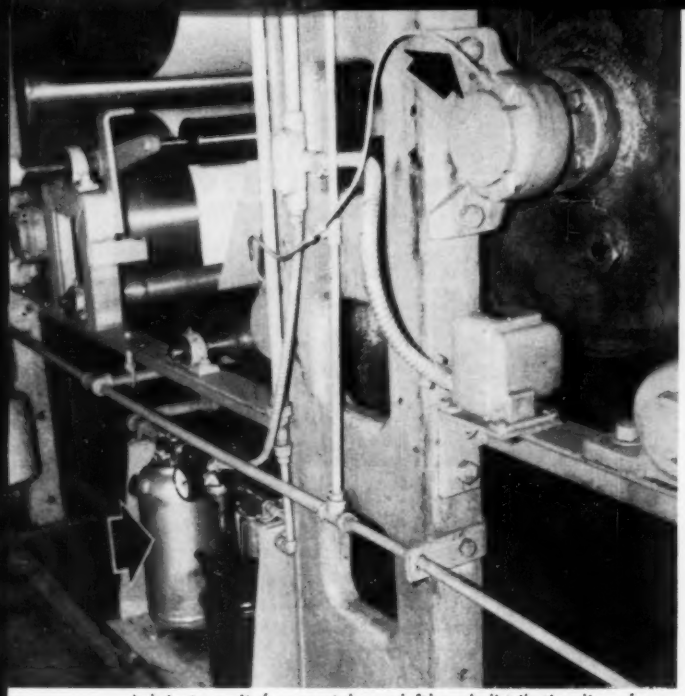
Group 1 stops are a result of soft warps. These stops are attributed to improper sizing. Soft warps that are giving trouble must be eliminated before attention is given to other causes of loom stops. Soft warps are most readily eliminated by increasing the starch in the size formula.

Group 2 stops from weak yarn and unknown causes are attributable to inferior yarn or quality of the fiber used, and compounds, waxes, and size ingredients give little help here. If Group 2 stops are sufficiently excessive to warrant a reduction at the expense of increasing stops in Group 3, it is desirable to use a low viscosity size with high content of solids with a minimum of compound and waxes.

Group 3 stops may be treated by increasing the softener or wax and lubricant to as high as 6-7 per cent, based on the fatty content of the compound or wax.

Group 4 stops cannot be helped to any significant extent in slashing, and are the responsibility of spinning, spooling, and warping, Mr. Seydel indicated.

Watch Thread Waste. The two important functions of waste control and quality control cannot be separated in the manufacturing processes, according to Jim Teat of Southeastern Engineering Co., who addressed the group. With an adequate quality control program you must give emphasis to the control of material waste. Likewise, no waste control program can be fully successful without a sound quality control program, he said. The most important single potential for cost cutting by reducing waste lies in thread waste, according to Mr. Teat.



Lubricator unit (arrow at lower left) and distribution lines (arrow at upper right) require no maintenance, only occasional replenishment of the oil supply. Note cleanliness of machinery and lubrication system components. Cleanliness and reduced maintenance are two of the major advantages which this plant gained from the system.

Oil fog cuts costs

This finishing plant has lower maintenance costs, uses less oil, and has cleaner operating conditions with "fog" lubricating system

Staff prepared—Exclusive

A LUBRICATION system employing compressed air to spray oil in "fog" form on the chain and tracks of a tenter frame at Erwin Mills' Cooleemee, N. C., finishing plant resulted in such an improvement in economy and operating conditions that the company installed the equipment on three tenter frames and three stacks of dry cans. A new set of dry cans now being installed is to be equipped with the "fog" lubrication system.

Benefits from the installation of the new lubrication units at Erwin, according to W. R. Wands, finishing plant manager, are:

(1) Cleanliness of operating conditions is immeasurably improved, with an accompanying reduction in oily goods in process.

(2) The system on dry cans uses only 1½ pints of oil in 24 hours, saving enough on lubricants alone to pay for the installation in less than six months.

(3) No carbon formation in the bearings on dry cans, which operate at temperatures in the range of 240 F. Formerly, when lubrication was done manually, one-third of the bearings on dry cans had to be replaced in a year because of carbon formation and subsequent faulty bearing operation.

The three stacks of cans already equipped with the lubrication system each comprise 40 cans with 80 bearing points, plus one lubrication point on the chain drive for the stack.

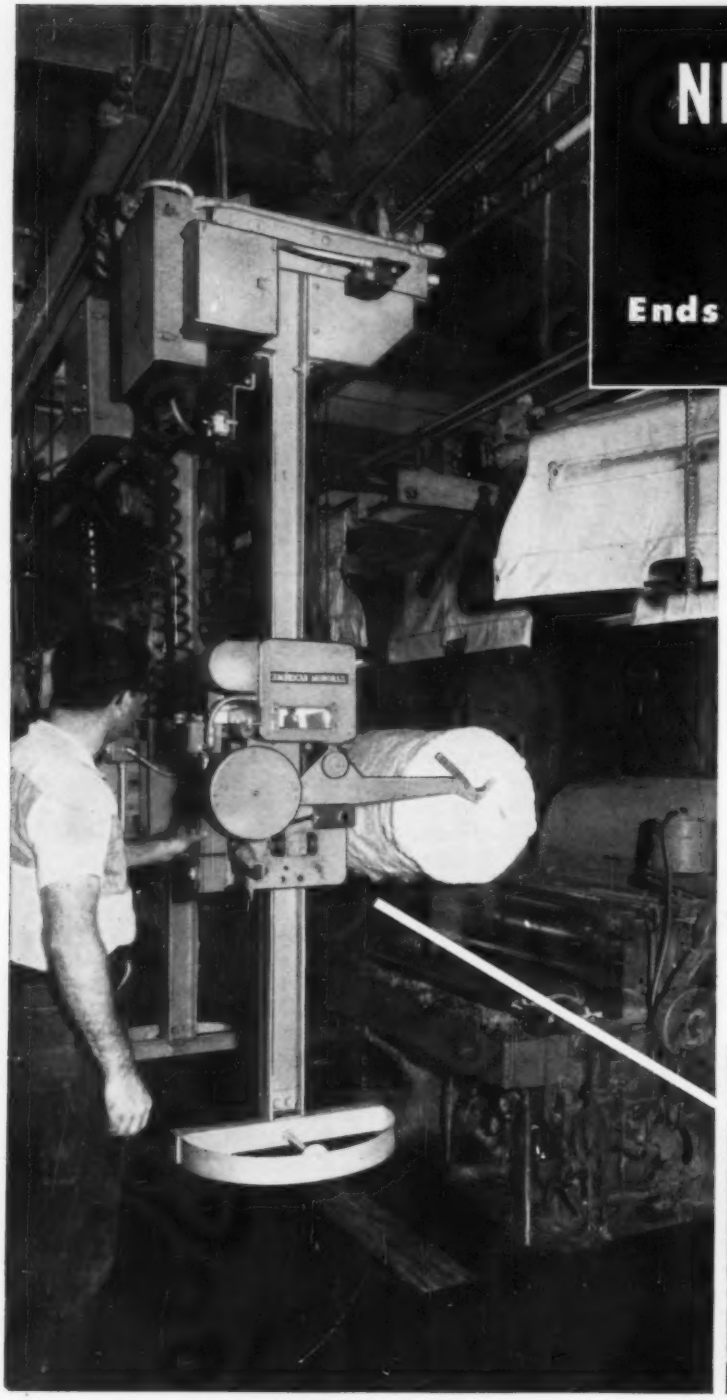
The three tenter frames equipped with the "fog" lubrication units each have three lubrication points located at the guides on the track carrying the chain of clips.

A substantial saving in maintenance costs has been effected through reduction in the amount of cleaning necessary around, on, and about the machines. Also, since putting in the new system, no bearing replacements have been necessary, and no wear has been found in periodic examinations.

The lubrication system includes: (1) an air line filter with an automatic drain to remove moisture and solids from the air stream and prevent contamination of the lubricant; (2) a solenoid valve to start and stop lubrication automatically as the power is turned on and off; (3) an air pressure regulator to reduce main-line pressure to the 10-12 psi working pressure used; (4) a "fog" lubricator with visible oil feed and oil supply. An air control valve is located ahead of the lubricator unit.

A one-inch pipe extends from the lubricator to the sides of the stack, and this is reduced to ¾ inch and ⅜ inch as it extends along each side of the stack. ¼-inch lines deliver lubricant to the bearings. The lubricant used is SAE 10W-30 motor oil.

Simple "fog" lubrication of tenter frame chain track eliminated maintenance headache. Three frames are equipped with the system.



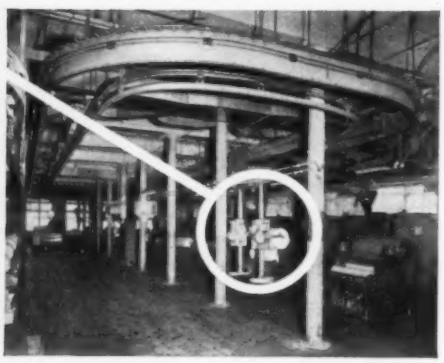
NEW BALANCE and LIFT CAR

Ends Lap Handling Labor

This machine not only checks lap weight but also lifts the lap from the picker to an American Monorail lap handling system. The operator is never required to lift the lap, so consequently the weight of the lap may be increased as desired.

The Lap Balance and Lift Car automatically positions itself to receive the lap when it is rolled a few inches out from the picker rolls. After checking lap weight and automatically placing the lap in the carrier, the machine automatically positions itself in front of the next picker to repeat the cycle.

- **Reduces heavy work**
- **Gives weight tolerance reading at picker and also on remote indicator for supervisor**



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How to get good results in napping

by C. S. Whewell
and D. C. Snowden

The University of Leeds

Abstract*

THE RESULTS which are obtained in napping depend on many factors, including machine settings, nature and composition of the fabric, and the conditions under which the napping is carried out.

Machine Settings. Machine settings are perhaps the most important factors which determine the ease with which a nap is produced on a fabric. However, high speed of nap production is not always desirable—it may lead to a wild and uneven nap.

The speed at which the nap is produced on a double-action napper is determined by the speeds of the pile and counterpile rollers relative to the fabric. Excessive pile or counterpile action has a tearing effect and this causes the fabric to be weakened, as shown in *Table 1*.

The amount of pile obtained during napping of course increases with the number of passages through the machine, until filling strength is so low that further napping merely detaches fibers from the fabric.

Likewise, tensile strength decreases in direct proportion to the number of passages.

In general, the slower the cloth passes through the napper, the greater the loss in strength and the more nap produced by each passage, since the fabric is in longer contact with the wire *(see Table 2)*.

Fabric Composition. In most cases, blended fabrics respond less readily to napping than do the corresponding all-wool fabrics. This is most marked in fabrics containing Dacron, nylon, and acetate. On the other hand, dynel seems to facilitate napping.

The effect of rayon depends on the type of rayon and the type of wool in the blend. With fine wool and three-denier rayon the presence of rayon hinders napping, while the reverse is true for fabrics containing coarse wool and eight-denier rayon.

In some cases the nap produced on a blended cloth differs in composition from that of the yarns in the cloth. The nap has essentially the same composition as the fabric from which it is produced in the case of wool/rayon and wool/synthetic protein, but fabrics containing wool and Dacron, nylon, or acetate have a nap which contains more wool than the unnapped cloth.

Fabric Structure. The part played by fabric structure in napping is shown in *Table 3*. It can be seen that with derivatives of the plain weave the ease of napping increases with the length of float. Moreover, as the number of picks decreases, the ease of raising increases.

Increasing the length of float in a twill promotes napping, and all the twill structures in the table are easier to nap than the plain weave materials. Satin-weave fabrics are more readily napped than either plain or twill structures.

The amount of pile produced in napping also varies according to the number of ends and picks per inch. Altering the ends per inch seems to affect napping to a greater extent than changing picks per inch.

Increased amount of twist in the filling yarn and use of ply yarns also decreases ease of napping.

Extent of Fulling. In general, the more that cloth has been fulled, the more difficult it is to nap, although fulling may be necessary to achieve the desired effect in a fabric such as a doeskin.

Moisture. The amount of nap produced by a given set of conditions is generally increased by the presence of moisture. However, tightly set rayon fabrics often become boardy when wet, and so are more difficult to nap.

Fabrics made from hydrophobic fibers such as Dacron are little affected by moisture.

Acids and Alkalis. In general, the presence of acids and alkalis makes napping easier.

Neutral Salts. Since neutral salts depress fiber swelling, they usually make napping more difficult—of importance in napping proofed fabrics, which often contain comparatively large amounts of salt.

Dyeing. It is well known in the trade that some dyed fabrics nap more readily than others. This is principally an effect of the method of dyeing used.

No evidence has been found that fabrics of any one particular color, e.g., brown, are particularly difficult to nap.

Considerable resistance to napping can be brought about by printing with resin-bonded colors, enabling production of interesting printed and raised effects.

Lubricants. Lubricants can in many cases improve the ease of napping.

Care must be taken in selecting the lubricant and in the quantity applied; for example, if an erect nap is desired, too much lubricant will cause the nap to be laid.

TABLE 1

Dial Settings, Pile & Counterpile	Tensile Strength, Napped Fabric lb	Thickness, Napped Fabric Inches
0	180	0.224
1	146	0.250
2	133	0.280
3	122	0.316
4	104	0.360
5	58	0.414
6	8	0.526

Each fabric was passed through the machine twice and tensile strength of filling measured

TABLE 2

Fabric Speed ft/min	Tensile Strength, Napped Fabric lb	Thickness, Napped Fabric*
55	113	277
45	112	297
39	108	317
32	100	340
27	75	366

*Arbitrary units

TABLE 3

Type	Picks/Inch	Increase in Thickness on Napping*
2/2 Basket	24	205
3/3 Basket	24	317
6/6 Basket	24	395
2/2 Twill	20	197
1/3 Twill	21	291
1/5 Twill	20	379
2/4 Twill	26	337
3/3 Twill	26	303
1/11 Twill	24	460
2/10 Twill	24	427
3/9 Twill	24	383
4/8 Twill	24	419
5/7 Twill	24	440
6/6 Twill	24	481
4-End Satin	20	351
6-End Satin	21	493
12-End Satin	26	582
Plain Weave	16	99

*Arbitrary units
The same yarn was used for warp and filling of all fabrics, with 20 ends per inch.

*From a paper presented at the Sixth Canadian Textile Seminar.

Rotron Research Corp. of Woodstock, N. Y., uses several dozen Strobotacs continuously in the design and production testing of its small fans and blowers, which are used in the cooling of electronic equipment. Typical tests include:

During vibration testing, Strobotac and Strobolux® auxiliary light source spot mechanical resonance present in a developmental vane-axial blower.

Motor-speed measurements under various loads imposed by dynamometer during production testing.

Measuring motor speed during air-moving capacity test of experimental fan in a standard NAFM test chamber.

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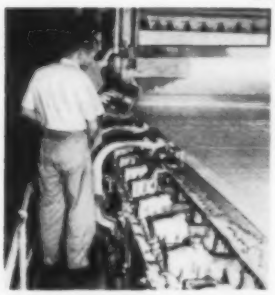
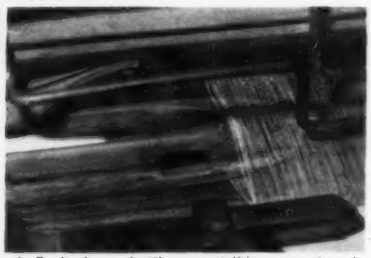


◀ A Strobolux in use at a typical paper mill helps observe water removal and sheet formation on a Fourdrinier wire.

Checking spindle speeds to an accuracy of ±1% at textile mill. ▶



▲ Faulty loom shuttle seen striking warp threads with aid of a Type 1532-B Strobolume.

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Protect wool

(from page 71)

the rinse water just before the grease wool was introduced in the train. Chemical analyses of wool samples taken as the stock came out at the beginning, middle, and end of the run showed that an immediate pickup of the DDT by the wool resulted in a much higher deposit on the wool that first entered the bowl *(Table 3)*. In order to obtain more uniform deposits of DDT, the EQ-53 in the subsequent lots was added to the rinse water of the last bowl in three parts, and the deposit of DDT was considerably more uniform with this method.

The level and persistence of the DDT deposits through the subsequent manufacturing processes can be better seen in *Figure 1*, which graphically shows the data in *Table 4*. It was very evident that the first two or three processes removed all of the DDT that was lost. There appeared to be no significant loss in the subsequent stages of manufacture.

Also worthy of notice were the three levels in which the DDT deposits of the processed wool fell: The 1-oz treatment at a level of approximately 0.6 per cent of DDT, the ¾- and ½-oz treatments at a level slightly higher than 0.2 per cent, and the ¼-oz treatment at a level slightly lower than 0.2 per cent.

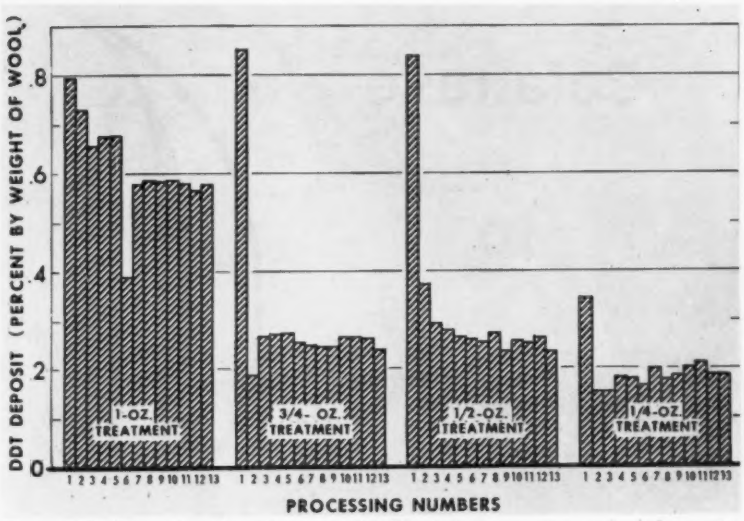


Figure 1. Studies on insect-proofing wool with EQ-53 during scouring, and on the persistence of DDT through subsequent manufacturing processes. The data are taken from Table 4.

The low DDT content of 0.390 per cent in the combed sliver from the 1-oz treatment, as compared with the higher values for the other forms from the same treatment, cannot be explained.

As shown in *Table 5*, all of the samples processed from the wool treated with ¼ oz of EQ-53 had very low weight losses when subjected to bioassay tests, an indication of satisfactory protection against insect damage.

The conclusions drawn from these studies were:

1. DDT showed a marked substantivity towards wool when treated with EQ-53 in the rinse bowl of the scouring train.

2. The level of DDT residue on the wool thus treated can be controlled by the amount of EQ-53 used, based on the weight of the grease wool to be treated.

3. The DDT residue on wool thus treated was very persistent through the subsequent processing stages. The DDT which was lost was removed during the carding and combing, after which the level of DDT remained about the same.

4. Treatment of wool with EQ-53 in the scouring rinse with an application as low as ¼ oz per lb rendered the wool immune to insect damage from the scouring to the knitting yarn stage.

Summary and Discussion. The treatment of wool in the rinse scouring bowl with EQ-53, a 25 per cent DDT nonionic emulsifiable concentrate, was found to be a very effective, low-cost application, capable of rendering wool immune to insect damage throughout the manufacturing and storage life from the scoured stage to the finished yarn. The investigation was started as a series of simple preliminary laboratory tests and developed through a pilot plant treatment to a semipractical mill run.

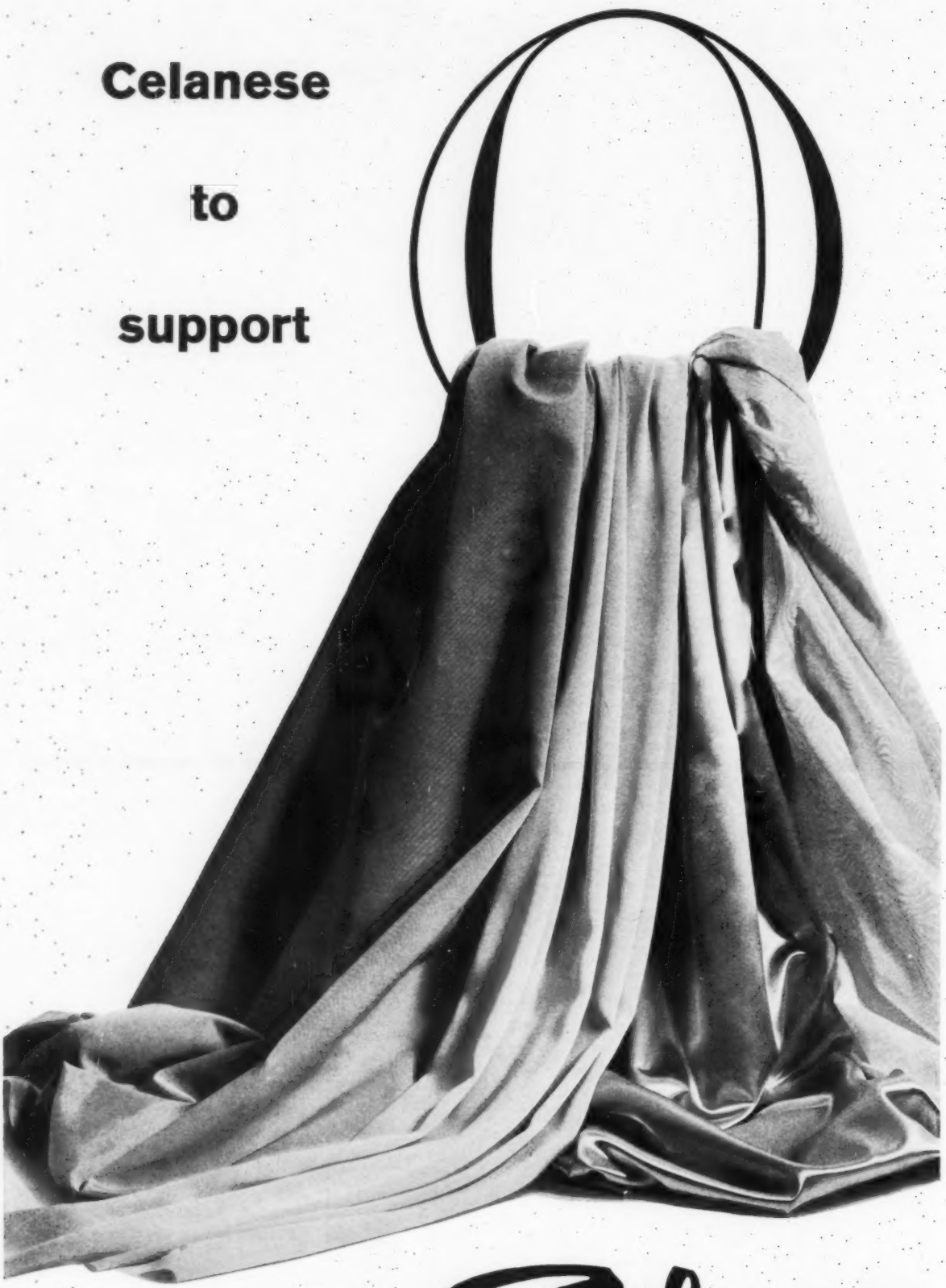
(Continued on page 123)

TABLE 5. Weight Loss of Processed Wool Samples Treated With ¼ oz of EQ-53 in Scouring*

No.	Processing Form	Treated Sample DDT Residue	Treated Sample Weight Loss	Untreated Sample DDT Residue	Untreated Sample Weight Loss
		%	Mg	%	Mg
1	Scoured, air-dried	0.346	0.4	0	50.8
2	Scoured, dryer-dried	.154	3.9	0	57.4
3	Card sliver	.154	.8	0	50.2
4	First gilling sliver	.181	- .8	.0	45.5
5	Second gilling sliver	.180	1.8	.0	38.9
6	Combed sliver	.165	1.8	0	15.8
7	First Pin-Drafting sliver	.200	3.0	0	28.7
8	Second Pin-Drafting sliver	.180	2.1	0	31.3
9	Third Pin-Drafting sliver	.186	2.1	0	24.3
10	Roving	.201	2.7	0	26.1
11	Spun yarn	.212	1.7	0	23.8
12	Twisted yarn	.187	- .5	0	46.7
13	Wound or coned yarn	.187	1.6	0	44.1

*After an exposure of 28 days to 10 black carpet beetle larvae (average of four replications).

Celanese to support



Celanese

For further information use Handy Return Card, Page 173

pulent fabrics for fall '59

Satins, crepes, failles and moires important trend setters

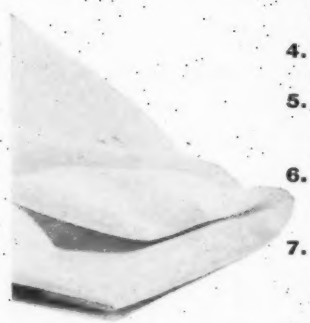
All advance fashion reports indicate a strong return to peaus, brocades, satins, crepes, failles, moires, and other opulent look fabrics. This is true both in Paris and New York.

Because Celanese acetate and Celaperm acetate are vital to these highly styled fabric constructions, Celanese will support all opulent look fabrics containing Celanese fibers with a broad promotion for fall '59. This promotion is designed to help sell at all levels—mill, converter, cutter, and retailer.

What does this mean to you?

Celanese will help promote your opulent look fabrics by doing the following.

1. Obtain from your converter customers a list of all manufacturers sampling your opulent look fabrics.
2. Supply all manufacturers with showroom displays and hang tags for their garments.
3. Show samples of these fabrics to hundreds of manufacturers through the Celanese Market Liaison Department.
4. Supply all manufacturers with a list of the participating retail stores.
5. Supply your converters with showroom display pieces showing their participation in the promotion.
6. Invite magazine, trade paper, and newspaper editors to see your fabrics at the Celanese Fabric Library.
7. Line up about 100 important stores in key U. S. cities as retail headquarters for the promotion. This means newspaper ads, windows, displays, and fashion shows on garments cut from your fabrics.
8. Supply all participating store buyers with a complete resource list of manufacturers in time for Market Week.
9. Advertise opulent fabric categories to the manufacturers.
10. Supply all participating retail stores with a complete selling kit.
11. Send Celanese representatives to stores to hold sales training meetings, narrate fashion shows, and act as retail consultants to consumers.
12. Run multiple page consumer ads featuring merchandise made from opulent look fabrics, complete with retail store listings.



How can you participate?

All you have to do to participate is to make opulent fabrics containing Celanese yarns, and supply Celanese with the names of the converters buying these fabrics.

What fabric categories are included?

Taffetas, satins, peaus, crepes, failles, ottomans, and brocades. Contact your Celanese representative for further information:

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180 Madison Ave., New York 16, N. Y.
Room 10-141 Merchandise Mart, Chicago 54, Illinois.
P. O. Box 1414, Charlotte 1, N. C.
200 Boylston St., Chestnut Hill 67, Mass.
819 Santee St., Los Angeles, Calif.

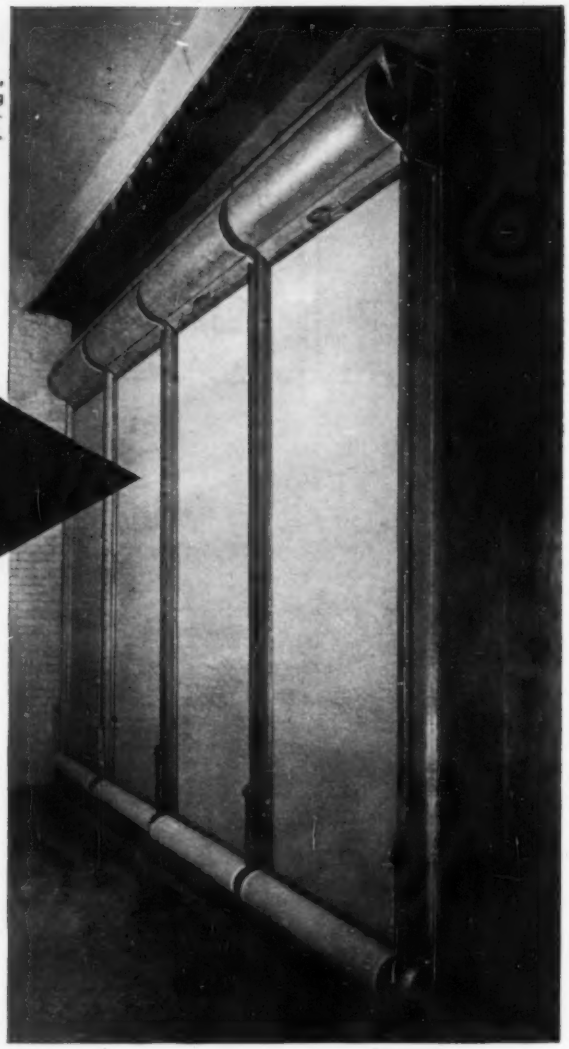
EXPORT SALES: Amcel Co., Inc., and Pan Amcel Co., Inc.
180 Madison Ave., New York 16, N. Y.

IN CANADA: Chemcell Fibres Limited,
1600 Dorchester Street West, Montreal, Quebec.

Celanese® Celaperm®

contemporary fibers

Auto-AIRMAT installation at Riverdale Mills, Enoree, South Carolina. Air conditioning system designed and installed by Buensod-Stacey, Inc., Charlotte, North Carolina.



CURTAIN GOING DOWN ...ON *LINT!*

AAF Auto-AIRMAT filters end lint problems for Riverdale Mills

Lint—the relentless enemy of textile operations—doesn't have a chance to do its dirty work at Riverdale Mills, Enoree, S. C. AAF Auto-AIRMAT filters on eight air conditioning systems (totaling 569,365 cfm) keep lint safely behind the "paper curtain".

The Auto-AIRMAT is the *only* filter designed specifically for lint. Airmat filtering material, unwinding from roll at top of unit, moves automatically down the face of the filter, collecting lint all the way—rewinds into easily-disposable roll at bottom.

If you've got a lint problem, investigate the *lint filter*—AAF's automatically renewing Auto-AIRMAT. Call your local AAF representative, or write direct for Bulletin 234.

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Protect Wool

(from page 119)

These studies showed that DDT was highly substantive towards wool. The insecticide deposited on the wool during the treatment described was over 20 times greater than the theoretical deposit calculated on the basis of the liquor absorbed by the wool. It was further shown that the level of deposit was governed by the volume of EQ-53 applied per lb of grease wool treated. Carding and combing removed some DDT from the treated wool but the level of deposit remained about constant thereafter.

Application of EQ-53 as low as ¼ fl oz per lb of grease wool produced residues which were effective in protecting the wool against insect damage throughout the processing of the wool into knitting yarn. The cost of such a treatment would average less than one-fourth of a cent per lb of grease wool.

The EQ-53 treatment of wool during scouring appears to be ideal for stock that is to be stored as scoured wool, tops, or as yarn. No other treatment would be necessary to protect the stock against insect damage and, therefore, the costly antiquated preventive methods of wrapping, use of moth crystals, etc., would be eliminated.

Since there are many modifications in the methods and equipment used for scouring, some adaptation will undoubtedly be necessary before the EQ-53 treatment can be used routinely. Furthermore, any process such as backwashing which may have an effect on the insecticide residue should also be taken into account.

The possibilities of introducing the EQ-53 in the backwashing, bluing, or any other process involving water should be considered. Also worthy of consideration is the possibility of introducing DDT into the stock in wool oil. All of these treatments appear promising and should be investigated.

Literature References

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2. Anon., CSMA Textile-Resistance Tests, *Soap Sanit. Chem.*, Blue Book and Catalog Ed., 259-62, 276 (1952).
3. Ferguson, G. R., Summary on Incidence of Fabric Pest Damage and Recommended Control Measures, *Soap Sanit. Chem.*, Off. Proc. 26th Mid-year Meeting CSMA, 77-79 (1950).
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5. Karr, N., Moth-Proofing for Wool-Synthetic Blends, *Modern Textiles* 36, No. 7, 49-50 (1955).
6. Laudani, H., "Tests With DDT Nonionic Emulsions for Mothproofing Washable Woolens," U. S. Bur. Ent. Plant Quar., E-858, 1953.
7. Laudani, H., Clark, P. H., Williams, H. L., and Dale, W. E., Insect Control on Feathers with EQ-53, *Soap Chem. Specialties* 31, No. 12, 199, 201, 203, 204, 225, 227 (1955).

Save Water

(from page 110)

This is the heat that must be picked up by the cooling water, and the problem is to so size the tower and pump assembly that enough of the heat can be released to the atmosphere to keep the cylinder at a satisfactory operating temperature and feed the right balance of water to the aftercooler to keep too much moisture from getting into the system.

Calculations. There are three methods that can be used to calculate the heat load that must be taken out of the compressor-aftercooler assembly. Two of these are somewhat theoretical and the third is somewhat rough but thoroughly sound for sizing and easier to handle.

The first basis is to calculate the theoretical adiabatic horsepower put into the air, and using the 20 by 13 machine at 25 psi as an example, the calculation gives a horsepower of 83.6. Since one horsepower is equal to 2545 Btu/hr, the heat release is calculated to be 213,000 Btu/hr.

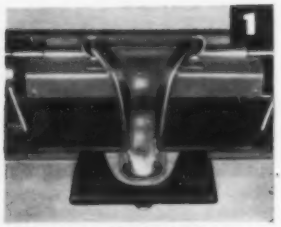
The next basis is to calculate the adiabatic temperature rise as the air is compressed, put in the factors for weight of air handled, specific heat, and so on, and this winds up to be 216,000 Btu/hr. The figures are: Adiabatic rise from initial condition of 70 F to 25 psi, 178 F, giving a final temperature of 248 F. The pounds of air compressed is 1132 x 60 x 0.075 = 5090 lb/hr. The Btu/hr being carried away by the hot air is the weight times the temperature rise, times the specific heat of air, or 5090 x 178 x 0.2381 = 216,000 Btu/hr, which is a rather close check on the first method.

The last and simplest method is to take the brake horsepower of the compressor, allow 15% of the bhp input for radiation from the frame and other losses in the compressor, and then multiply this horsepower by 2545 Btu/hr. This method gives a heat load to the tower of 234,000 Btu/hr. This looks like a large allowance for radiation, and a large cooling load to the tower, but it is well to err a bit on the side of safety when dealing with cooling, and get the tower a bit large.

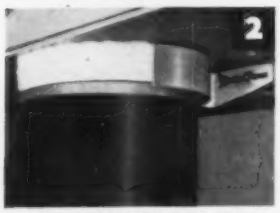
Circulate More Water. Most cooling tower people prefer to have water come to their towers cooler than will come with the water quantities usually specified by the compressor people. You get around this by making the amount of water circulated larger, and a good bet is to double the rate given by the compressor people. You then calculate the rise based on the pounds of water through the machine.

It is well to go at this part of the answer a little backward by getting the total heat load to the cooling water, taking a reasonable temperature rise that you know will work in your area with a tower—say 15 F in the Midsouth—and then figuring the gpm required. In sizing the tower the wet-bulb temperature limits of the area must be considered.

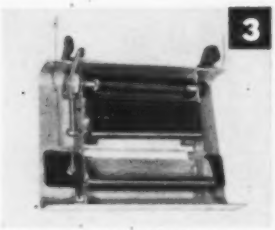
Tower Operation. A word of caution is also necessary on towers. They will cut the water demand down, but they won't save it all. As water is evaporated from the tower the solids and mineral content of the water that is left goes up, and to keep the solids content cut down to where the hot surfaces won't scale up it is necessary to drain the tower on some schedule, and keep a supply of the best water that is available dribbling in to replace the evaporation loss. Sometimes in hard-water country you may have to use chemical treatment of the cooling water.



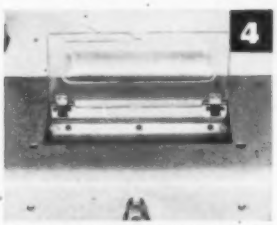
NEW WEB ENCLOSURE FOR COMPLETE WEB PROTECTION



NEW CENTRI-GUIDE FOR PRECISE COILING



NEW CLEARER PRESSURE PLATES FOR CLEANER ROLLS



NEW CLEARER COMB COMPACTOR FOR LESS ROLL PICKING

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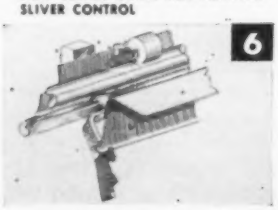

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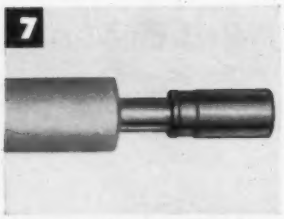

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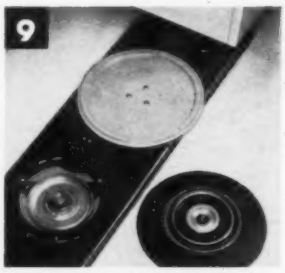

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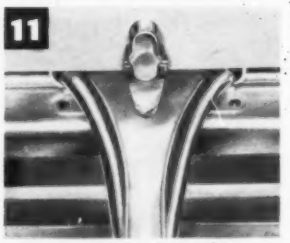

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HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •

Raw stock pressure dyed and pressure dried on this system

THE EDITORS:

It is essential that the costs of the stock dyeing process be maintained at as low a level as possible. This is probably even more important now that extensive ranges of shades of "spun dyed" man-made fibers are available.

The older methods of stock dyeing have involved considerable handling of the loose fiber which has made the process relatively expensive and has also tended to entangle or "felt" the fibers, thus detracting from their spinning performance.

In an effort to reduce the labor cost and to preserve the spinning properties of the fibers, the process described below has been developed. To be successful it is essential that pressure drying equipment be available; it is desirable that the dyeing machinery should be of the high pressure type in order to ensure good penetration and freedom from channeling.

The loose stock — wool, staple viscose, acetate, Orlon, Acrilan, Dacron or Terylene, nylon, etc.—is packed in the perforated annular cage of the dyeing machine. This cage is equipped with an unloading plate to which are attached three lifting chains.

The stock is of course packed on top of the plate with the chains and their lifting rings extending to the top of the cage and left on top of the stock when the cage lid is screwed down. The cage and its plate is of standard design obtainable from any of the principle machinery makers.

The uniformly packed cage of stock is handled through the different wet processes of scouring, dyeing, rinsing, etc., by means of an overhead runway and lifting gear.

Mechanical removal of water is achieved by means of powerful suction extraction. This is repeated at least twice using a vacuum of at least 25 inches of mercury.

The cage containing the extracted dyed fiber is then dried in the pressurized dryer normally used for drying a similar sized carrier of cones or cheeses. The cylindrical drying chamber containing the cage of stock, and the accompanying heating and condensing chambers, is filled with clean compressed air under a pressure of 6 atmospheres. The air is heated and forced through the fiber mass and then the evaporated moisture removed by the condensor after which the same air is passed round again and again until the stock is dry.

The direction of the air through the stock is changed at regular intervals. The end point of the dry-

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The contest rules are simple:

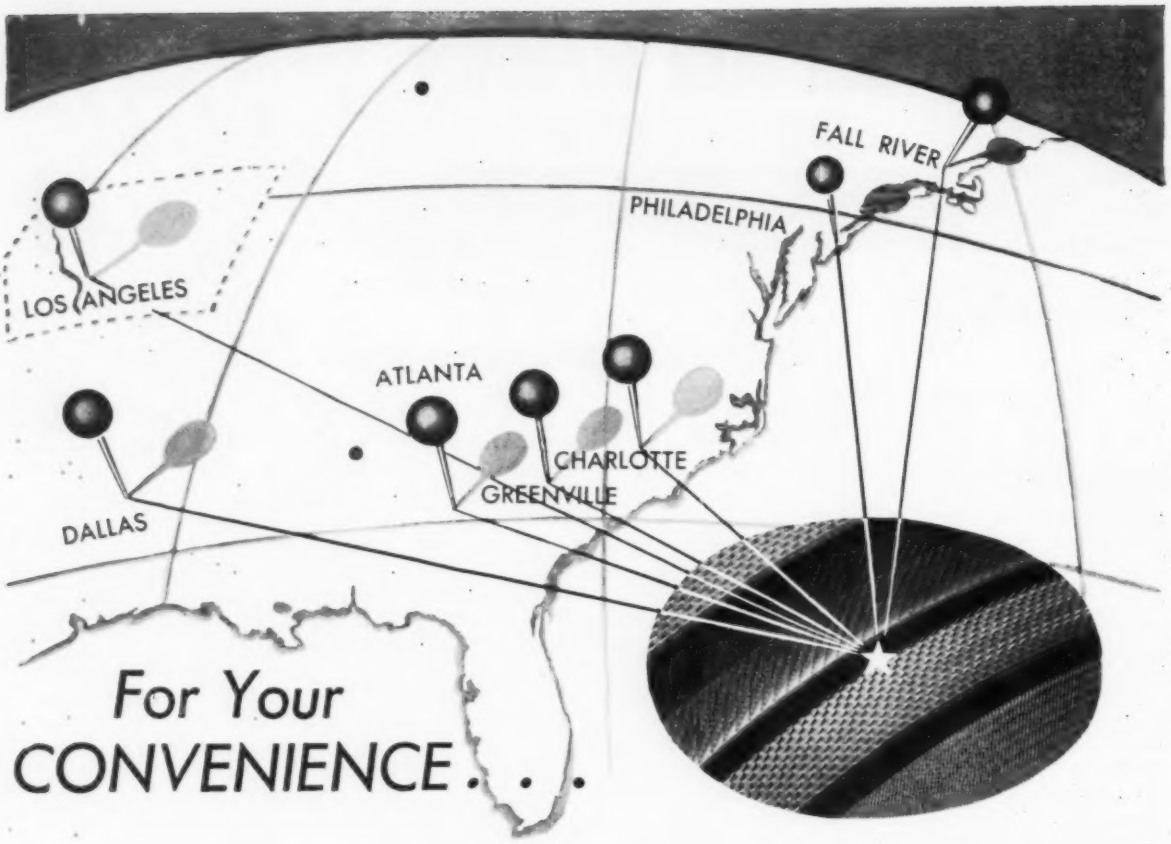
► All contributions must be postmarked not later than midnight, December 15, 1958.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

Send your contest entry to: The Editors, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 8, Georgia.



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ing process is reached when the temperature of the air leaving the drying chamber is from two to five degrees Centigrade below the temperature of the air entering the chamber.

The proximity of the temperature on the two sides of the chamber depends upon the particular fibers and the amount of moisture one requires to leave in. For example hydrophobic fibers will be dried to a moisture content of one to two per cent in 15 to 20 minutes when the temperature difference is two degrees Centigrade. More sensitive fibers such as wool would require 50 to 60 minutes drying at a lower temperature and the moisture content would be approximately 16 per cent when the temperature difference is five degrees Centigrade. To ensure good spinning behavior of the dyed fibers it is important to avoid overdrying.

When the drying process is completed the cage is lifted out and deposited on the floor to enable the lid to be unscrewed. The rings on the chains are looped over the lifting hook and the plate supporting the dyed stock lifted out.

This is then moved over a wooden chute below which is attached a bale. The fiber is pulled from the plate straight into the bale and is then ready for transfer to the next process. As the fiber has not been agitated during the wet processing on the drying stage its spinning performance is similar to that of undyed fiber and the processing cost has been very low.

CONTRIBUTOR No. 1074
(England)

HOW OTHER MEN MANAGE

Needle penetration tests disclose possible seaming trouble

THE EDITORS:

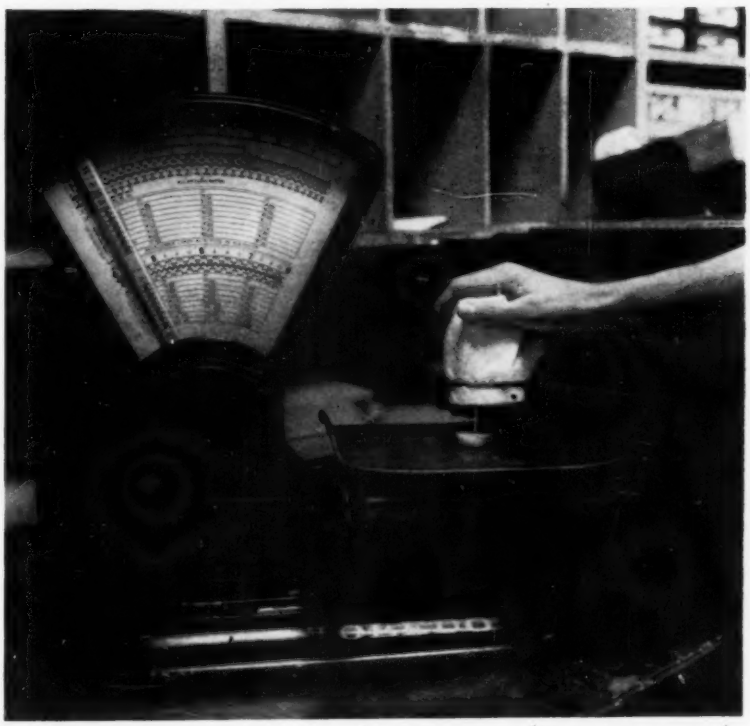
From time to time in the needle trade we run into trouble in stitching certain fabrics that have been finished in such a way that they are most difficult to sew. At such times we may have to reduce machine speeds, stop frequently for changing burned or broken needles, or suffer a high ratio of needle cutting. These all add up to a drop in efficiency and soaring costs.

In searching for some method of predicting cloth behavior during sewing, we learned that we had to measure resistence to needle penetration in which two factors are involved:

1. Resistance to needle penetration at the point of impact
2. Resistance to the needle after penetration

Experience with die cutting on a die cutting machine has shown that one thickness of cloth can jam the machine if laid over 24 plies of material that we know is very easy to cut. However, one single ply of improperly finished material can very easily jam the machine.

This sort of finish will also cause a needle to break on impact when stitching on certain operations *if the machine is started when the needle is at the top center of its stroke.* However, if the sewing machine is started at bottom center of the stroke or after the cloth has been penetrated by the needle, the needle will only burn and have to be replaced frequently. Experience shows a direct correlation between ease of needle penetration and stitching efficiency.



We found a simple means of measuring resistance to needle penetration. We place the fabric over the open mouth of a paper cup or tin can and bind it there with rubber bands much as we would mount the fabric for embroidering. We then embed a sewing machine needle, size 0.036, point up into a soft rubber eraser. This assembly weighs approximately one-half ounce.

We then place the eraser and its embedded needle, with the point up, on the platform of scales calibrated in half-ounces. Then we press the cup-mounted cloth down on the needle point and read the

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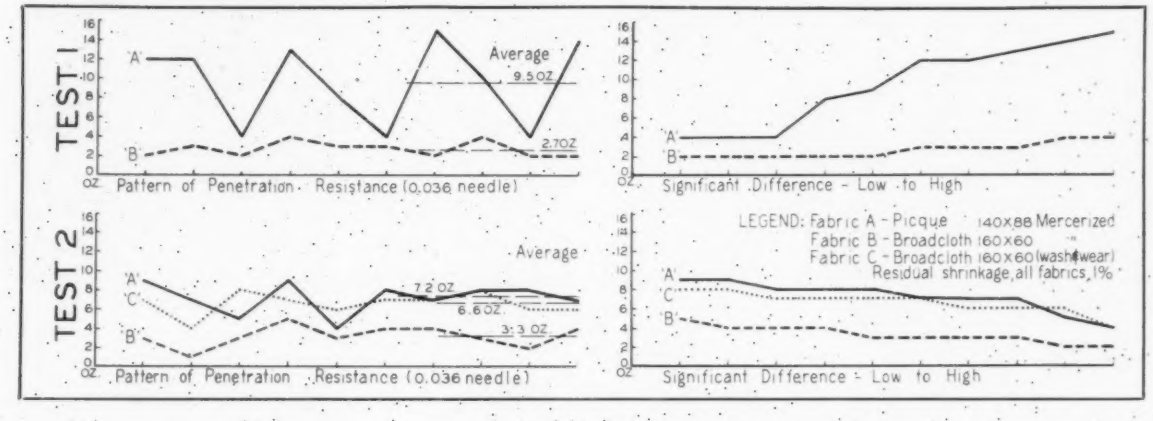
pressure exerted in forcing the needle into the cloth. We make ten tests so that all parts of the surface area can be measured for needle penetration.

The two accompanying graphs reflect the results of different and unrelated tests. Test 1 shows the comparative readings taken from two fabrics labeled simply "A" and "B." Test 2 contains the penetration readings taken from three fabrics labeled "A," "B," and "C."

We find that fabrics that give needle penetration resistance up to eight ounces run quite well throughout the plant, but we run into trouble points in stitching when the resistance exceeds the eight-ounce mark.

CONTRIBUTOR No. 1063



Try this when threading the sewing machine

THE EDITORS:

Almost everyone who has threaded a sewing needle has at times found the task most trying. Usually this is caused by insufficient light, inability to direct the yarn to the needle, odd fibers that splay just enough to spoil the "point" of the yarn, etc.

Most of these conditions may be improved by slipping a piece of white paper under the needle and lowering the needle through the paper until the bottom of the needle eye lines up with the surface of the paper. It usually is then a simple task to slide the yarn through the eye by laying the strand on the paper and pushing. The paper reflects added light onto the scene, allows the "point" to be held still as it approaches the eye.

CONTRIBUTOR No. 1055

Be extra careful in straightening knitting cylinder slots

THE EDITORS:

When a number of slots in the cylinder and dial of the knitting machine become rough and closed so that the needles do not work perfectly, the machine is usually torn down and the cylinder and dial are carried to the shop to be overhauled—slots opened up with the slot opener, filed smooth, and tested with a new needle to make sure that every slot is correct again.

It is a long and slow process, and the mechanic should be sure that he does not miss even a single slot. For if a tight one exists it will make flaws in the fabric after the cylinder is put into use.

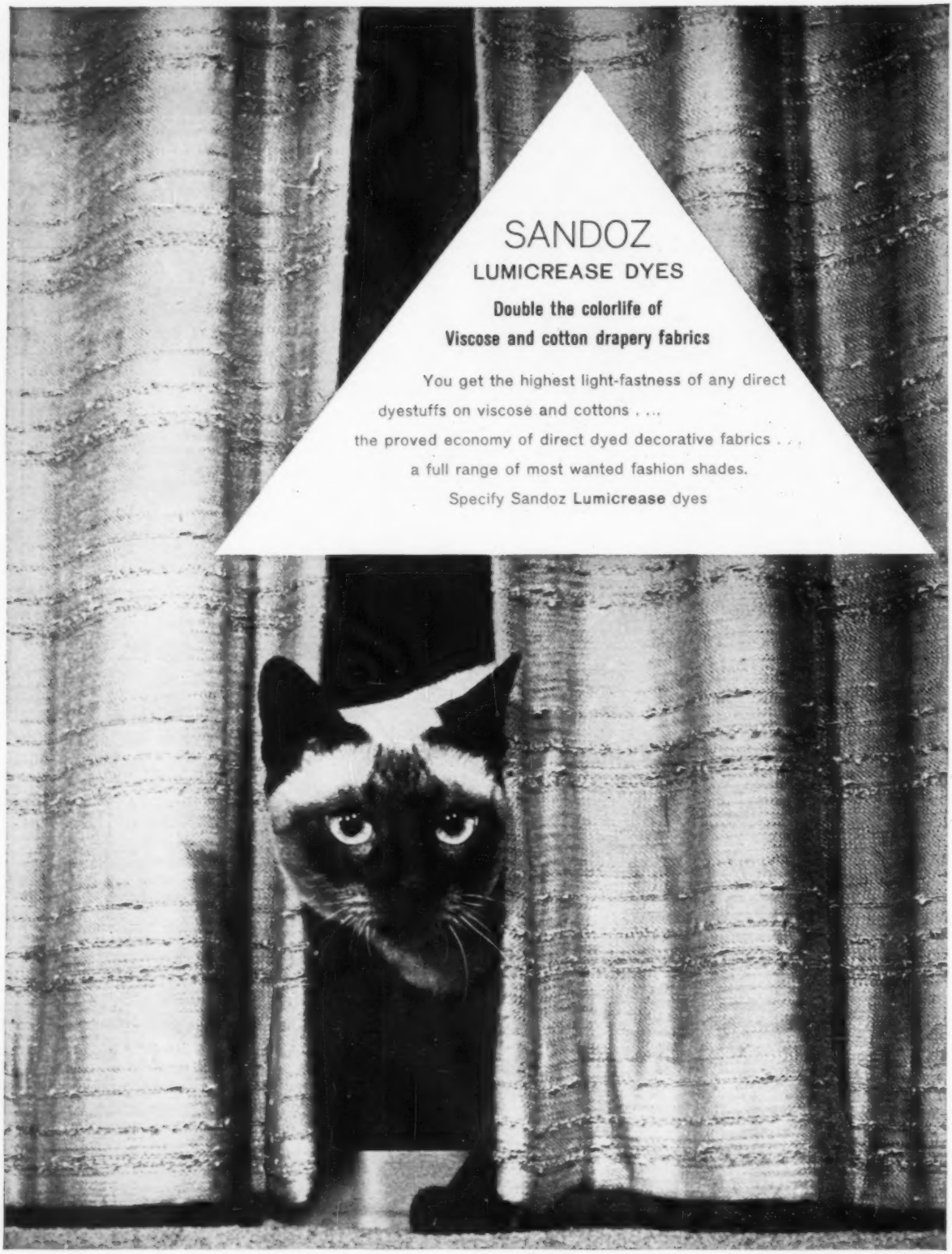
Care must be exercised in opening tight ones lest the pressure used to open one slot close the one next to it. It is best to keep a slot opener in place on each side of the one being repaired to help support them against such forces. it is only sensible to see that slots with nothing wrong with them in the first place remain in the best of condition.

A system of marking progress of the repairs is needed. One way to do this is to place adhesive tape over a group of slots as they are finished. A starting mark may be used and the same piece of tape moved all around the cylinder as the work progresses.

While the cylinder is still in the shop, install the needles. Install the needle spring, invert the cylinder and insert the needles head-first. In this way the spring will not have to be pulled out so the needle butts can be placed under them. This is a fast and easy process.

It is better to insert the dial needles after the dial is installed in the knitter.

CONTRIBUTOR No. 1046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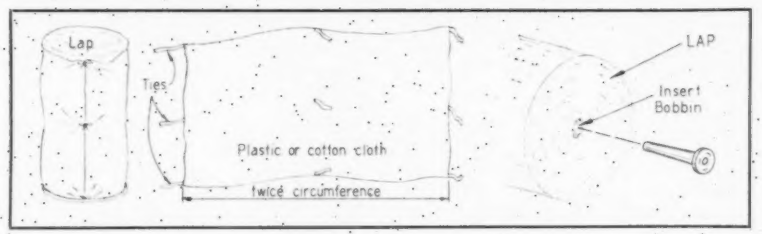


THE EDITORS:

To keep laps from peeling off on the surface, and to keep the surfaces free of dust and dirt, cover the laps with plastic or cotton cloth as shown here.

When laps are to be stocked in anticipation of overhauling the opening or picking equipment, a shortage of lap sticks may develop. This may be overcome by inserting an empty spinning bobbin into each end of the laps. We have found this measure will keep the laps opened for a week at least.

CONTRIBUTOR No. 1078
(Japan)

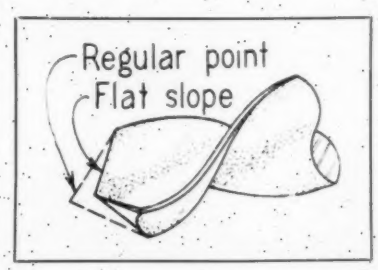
Drill needs different point for thin stock

THE EDITORS:

When holes are drilled in sheet steel or other thin stock with a regular twist drill, the point will often "grab" and will damage the stock or make an imperfect hole.

To overcome this difficulty, grind the slope of the drill point as shown here.

CONTRIBUTOR No. 1050

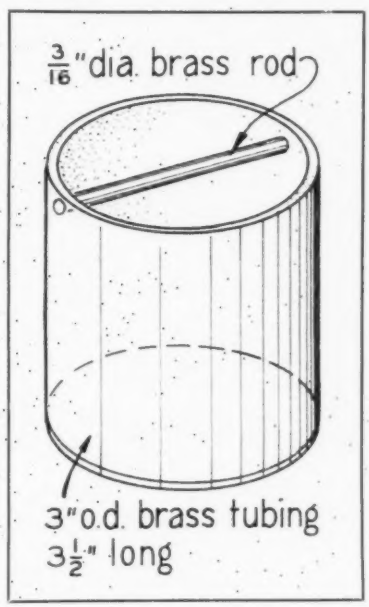


Desk-top pencil holder

THE EDITORS:

In our plant we have several girls who make a great number of entries on inventory cards. As they use a lot of pencils which require a very good point, they are constantly sharpening them. To stop the lost time which almost always takes place when two girls meet at the pencil sharpener, I had a piece of 2⅞" (inside diameter) brass tubing cut 3½" long. We welded a length of 3/16" rod across it.

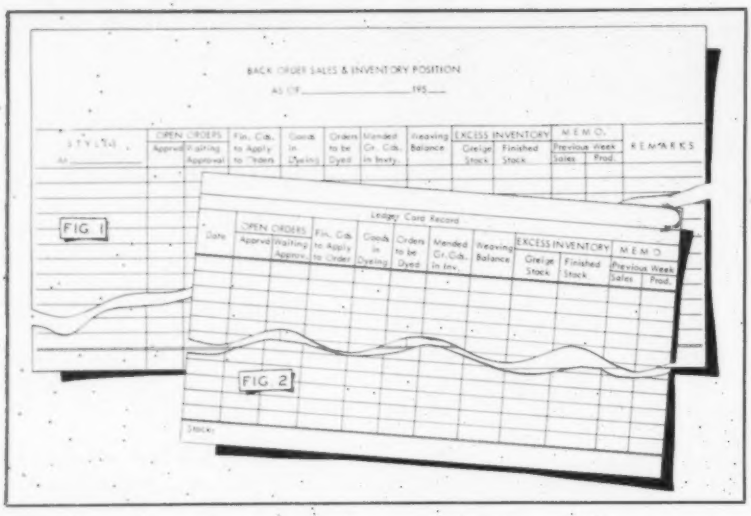
Then I had the holders polished and placed on the girls' desks. The containers hold about a dozen pencils which the girls now sharpen in the mornings and place in the front part of the receptacle. As the pencils are dulled they are placed in the back part of the holder behind the 3/16" brass rod separator. In addition to cutting down of the time the girls spent at the sharpener, the holders make a pleasing desk ornament.



CONTRIBUTOR No. 1040

HOW OTHER MEN MANAGE

Easy way to know what's sold and what's on hand



THE EDITORS:

Probably one of the most exasperating situations in the textile industry lies in the handling, scheduling, and expediting of orders for grey goods and finished cloth. Excess inventories persist in building up, despite the efforts of management. This condition is brought about by the open order position and the failure to stop weaving production when order requirements have been met—taking into consideration any previously established or built-up excess inventory.

To overcome this problem in one large mill it was found necessary to revamp the entire procedure through the origination and follow-through of a weekly report called Back Order Sales & Inventory Position (Figure 1). This report in several pages is compiled from a Ledger Card Record on each style (Figure 2) on which the day-to-day order, sales and inventory position are posted, summarized and transferred weekly onto the report form (Figure 1).

As evidenced from the uniform captions on both ledger card and report form, the individual styles by names and/or numbers are listed. The approved or "firm" orders are entered by numbers of pieces and the orders awaiting customers' release instructions and credit approval by the factor immediately follow.

The next five columns are of the utmost importance and enable the order analysis and scheduling departments to determine when production and completed status has been reached to enable expediting of firm orders. The information under Excess Inventory is important from the standpoint that production should not normally have extended beyond order requirements. A large excess inventory is indicative of a lack of cooperation between sales, order, and production departments.

The memorandum (Memo.) columns as indicated are historical in nature and serve only as statistical information. The last column, Remarks, is used to indicate how many days a loom is scheduled to run to meet order requirements, while considering excess inventory which every effort should be made to eliminate. This information is passed along to the production department. Through this means of close inventory control it is possible to reduce finished cloth inventory and conserve warehouse space.

Each style is reported upon weekly. The first completed report covered eight pages and 123 styles and reported first quality only. In these trying times, it is not enough that all of us employed in textiles be sales-minded—we should strive also to be economy-minded in an effort to control inventory position, realizing that an accumulated inventory results in a tying up of capital investment.

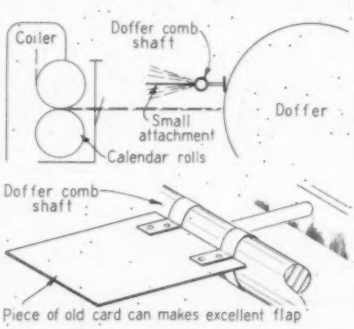
The proper handling and expediting of a large number of orders resulting in a small inventory value of any unsold finished product is an accomplishment to be desired and worth striving for in every type of manufacturing business.

CONTRIBUTOR No. 1068

Let doffer comb fan fly off card coiler parts

THE EDITORS:

When the flap pictured here is fixed to the doffer comb properly it causes a draft (while the comb is in operation) that clears all the fly from the calender plate. It is easily made from an old card sliver can.



On some stocks the accumulation must be cleared away from the plate every five minutes or so to prevent the waste from being drawn into the web at the point where it enters the trumpet. The flap in no way hinders piecing up.

CONTRIBUTOR No. 1077
(Australia)

Knitting Section

(KEEPS 'EM ON THE LEVEL)

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SEAMLESS KNITTING SPEEDS

Excessive machine speeds can actually raise your unit cost rather than cut it

by Ernest Bridges
Exclusive

TODAY, more than ever, "speed" is a by-word. Everything must be done in less time. Everyone is in a hurry.

Look at the twisted and battered heaps of junk in our modern auto graveyards. They once were new, gleaming '56, '57, or '58 cars. On the highway speed is taking its toll.

Take a close look at hosiery machines which have been run at excessive speeds, and here too you will see that speed is taking its toll. If and when any kind of knitting machine is run at speeds in excess of that which it was originally designed to run, a high price will be paid for this practice.

Top management wants high production, and has a perfect right to demand it; in fact, everybody's job depends on it. But for profitable operation machines must be run at speeds which will give the highest production of top quality goods at the lowest cost per dozen. So the big question is:

What is the *proper* operating speed for any knitting machine?

The answer is not easy to obtain, but there is an answer, perhaps several answers.

Some mill men are under the impression that coarse gauge machines will stand higher speeds than fine gauge units, and actually give less trouble. Nothing could be further from the truth.

Ask any first-class Komet fixer who has worked on 4-inch, 132-needle double-feed, 84-needle double-feed, or 3½-inch 200- or 240-needle double-feed machines, and every time he will say: "Give me the finer gauges." Run them all at the same speed, and the best all-around results will come from the finer gauges.

Factors Affecting Speed. There is, of course, no substitute for experience in anything, including determination of optimum knitting machine speeds.

Much will depend on the kind or type of machine. All machine builders recommend what they believe to be the proper speeds for their machines, and it is advisable to follow their instructions. In fact, a slightly lower speed than that recommended may prove better than operating the machines a little faster.

Much will depend on the kind of goods being produced and the kind of yarn being used. A group of machines running on combed or mercerized cotton yarn cannot be changed suddenly to wool, nylon, Orlon, Dacron, stretch yarns, etc., and be expected to run as well at the same speed. It takes some experimenting—in short, some actual experience in *your* mill on *your* machines—to determine the optimum operating speed.

The only alternative to this method of deciding how fast any machines and yarn combinations will run profitably is to ask another mill man who had identical problems.

Mind that word *profitably*, for speeding up machines to meet sudden demands for a particular style may actually cause production losses by increasing (1) the number of seconds, (2) the amount of waste, (3) needle and other parts replacement cost, (4) labor for the fixing staff, and (5) downtime for machines. Bear in mind also that any machine which has been running constantly for ten years or more will not be in shape to stand very much additional strain and keep on delivering the goods.

What Speed Does the Builder Recommend? During the recent trend to the 400- and 474-needle seamless nylons machine speeds became very important. Every mill manager was afraid that other mills with the same or similar machines could grind out the goods at a higher rate than he. A little pencil-and-paper work showed him how many additional dozens per shift could be produced by running his machines just 10 or 15 turns per minute faster—as the grapevine report said the Rapid Knitting Co. in Speed Town, Texas, was doing. He could get some much-needed extra production by doing this. But a better solution would have been to ask the machine builder for his recommendation on speed. Reliable information would have been forthcoming.

A good practice is to begin with the speeds recommended by the machine builder; they will not be

very much off either way. Some careful testing will help determine whether faster or slower speeds will give the highest production at the lowest cost per dozen.

Speeds on Komet Machines. What is said here is not intended to start an argument, nor is it given as advice which we think everyone should follow. Rather, these are some facts gained by experience "on the firing line" for quite a few years.

Once more, much depends on the kind of machines which are being operated. The various gauges and diameters present different problems.

A half-hose mill running only 200-needle 3½" 48-gauge double-feed Komets will not have the problems which come with 2¾", 3", and 3¼" double-feed Komets commonly used to produce children's anklets. It is true that the machines use the same needles, sinkers, and sliders, and are of the same gauge, but they are not of the same diameter.

The writer would not hesitate to push the 3½" 200-needle machines to the recommended limit, but based on actual experience he would never try to speed up the small diameter units.

Some mills have tried to increase the speed of Links-and-Links machines beyond factory recommendations, and some, we are told, are still doing it. But this does not prove that it is profitable to do so. In the long run such practices often cost more than the extra production is worth. The manager of each of these mills would do well to make some honest tests, keeping accurate records of waste, seconds, parts replaced, downtime, and labor costs to determine whether the extra five or ten turns per minute is really paying off or costing the mill money.

Single- and Double-Feed Machines. Again we come to a problem where speed is an important factor. The writer would not hesitate to experiment with a single-feed Komet in any gauge or diameter by running it at or slightly above what might be considered reasonable speed. But ask him to run double-feed machines above factory suggested speeds; the answer would be a loud "No!" In fact, he prefers to stay a little under recommended speeds for certain double-feed machines, solely for economy reasons.

There are certain types of goods which must be made on double-feed machines of both Links-and-Links and plain types. But a few million dozens of Komet goods have been produced on double-feed machines which could have been made at a lower cost per dozen on single-feed machines.

The main reason for utilizing multi-feed machines is to provide greater output per machine, thus making it possible to have less capital invested in machines and still get the desired production.

There are three important factors which enter the picture when we consider double-feed and single-feed Komet production:

1. It costs more to build a double-feed machine.

2. It costs more to keep a double-feed machine in good running condition.

3. Double-feed machines will not produce 50% more goods than single-feed units of like kind, as everyone knows. The actual figures will be 25 to 30% more, depending on speeds, fixing staff, etc.

Sixty per cent of the slider breakage on double-feed Komets is caused by the double-feed mechanism getting out of time. Also, the bulk of stitch cam and guard cam breakage in the upper sections is caused by the double-feed mechanism getting out of time. Thus, much of the additional production which is theoretically possible on double-feed machines is lost in downtime caused by the double-feed mechanism itself.

Eyelet problems, feeds out of balance, press-offs, latch guard troubles, yarn clamp and cutter problems, and sinker knock-over settings are but a few of the things which create fixing problems on double-feed machines, not to mention the racking mechanism, racking pawls, etc., which must be in first-class mechanical condition and properly adjusted to keep them running.

A very interesting test could be made by running a given number of double-feed machines against the number of single-feed machines required to produce as many dozens as the double-feed units in their best week. Run the test for six months and compare quality of goods, total dozens knit, seconds, waste, needle and other parts replacement cost, man-hours required to keep machine running, original investment—the works.

From the writer's experience he believes the results would be in favor of single-feed machines where the desired goods could be produced on them.

As most mill men know, a 70-gauge Komet in the smaller diameters is being used for making children's goods. From experience on other small diameter Komets, the writer would say by all means equip these machines for single feed. They can be run faster, and numerous problems which multiply as diameters get smaller will be eliminated.

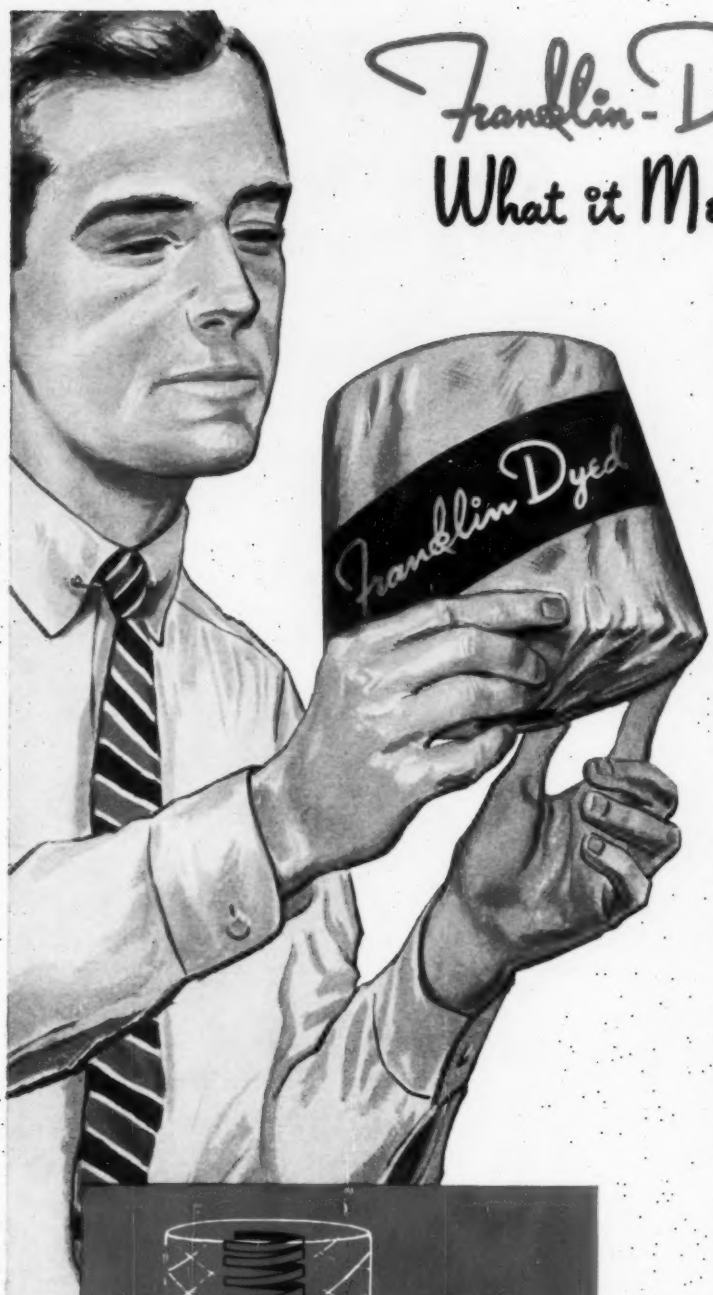
Present day labor costs have made it impossible to hand transfer plain 1 x 1 rib tops to produce plain fine gauge infants' and children's goods. The only practical solution is to use a Komet-type machine and to make sure that the machine runs with a minimum of labor, parts, and needle breakage.

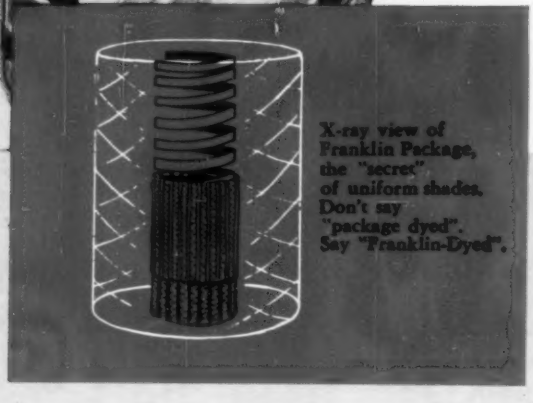
Machine builders in many instances develop and build what they believe the mill men want. It is up to mill men to make money on the machines they buy. In mills where the key to higher production is speed, the machine builders' representatives should take a hand in proving to the management that the right machines for the job will give them more top quality goods, more goods which can be sold at a profit, when run at proper speeds.

It is, of course, both possible and probable that the machine builders may not agree with the ideas or suggestions made in this article, and the writer is certain that the "speed kings" in the industry will not agree. But, there is one group that will support the suggestions made: machine fixers and knitting department foremen —those who have the job of actually keeping the machines running.

If this writing accomplishes nothing more than to start machine builders and mill men thinking about this subject of machine speeds, then the writer will have accomplished what he set out to do.

Franklin-Dyed YARN
What it Means to YOU





X-ray view of Franklin Package, the "secret" of uniform shades. Don't say "package dyed". Say "Franklin-Dyed".

"Franklin-Dyed" is something more than a name or an identification mark. It is also a symbol — a symbol of many things. For instance:—

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We dye exclusively on the Franklin compressible spring. This permits uniform density of packages, which promotes uniform penetration of the dye liquor and uniform shades.

SPECIALIZATION
Yarn dyeing is our specialty. We act as yarn merchants to get dyeing, but we don't dye to make yarn sales. Our 5 plants and our entire organization have but one objective — to provide the best yarn dyeing service available.

CAPACITY
With 5 dye plants, hundreds of package dyeing machines in dozens of sizes and winding equipment to match, we are literally the largest package dyers in the world — ready to dye all types of spun fibres in any quantity.

CONSULTATION
We can help you with your color problems. We have unequalled laboratory facilities, a staff of highly skilled technicians and unequalled experience in time, variety and volume which are at your service.

AVAILABILITY
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Franklin Process

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Dyers of cotton (carded, combed, mercerized)
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Helanca ● Spun Nylon ● Spun Rayon ● Blends
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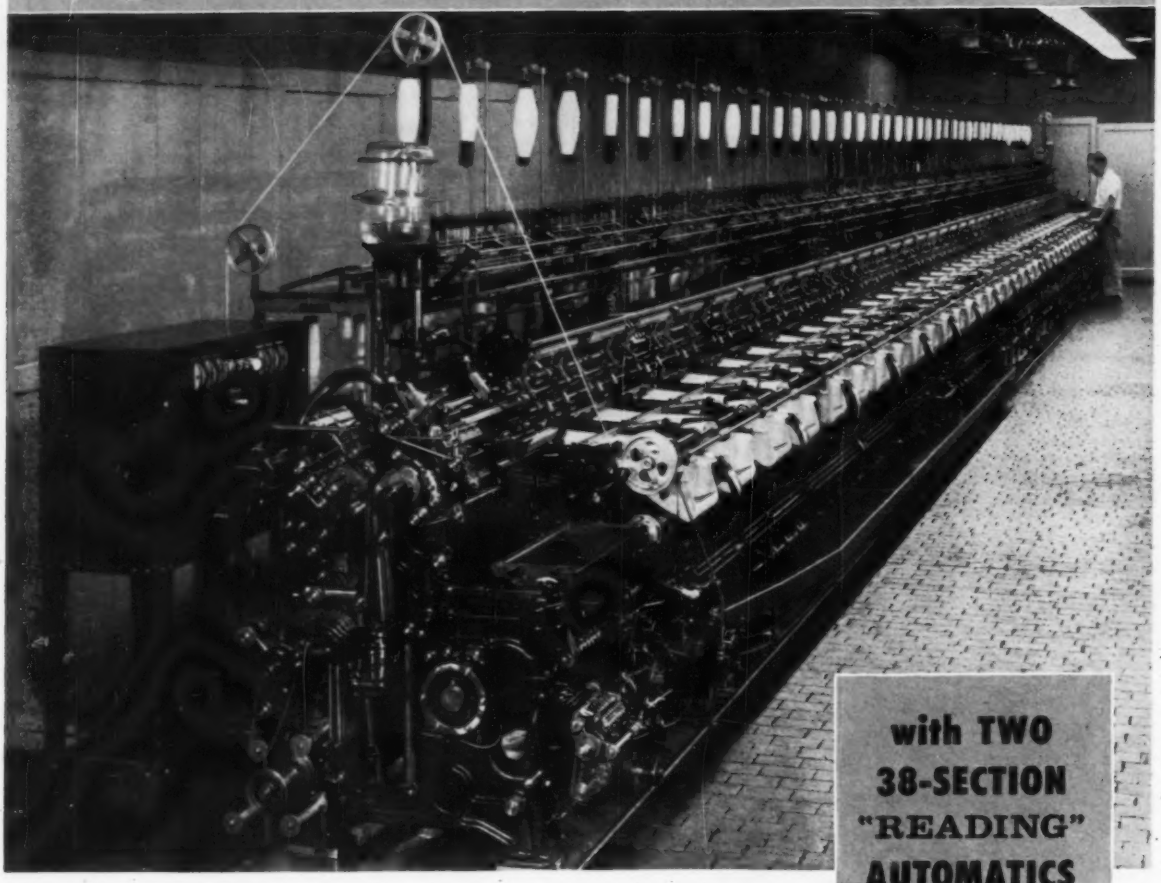
*Trademark for Dupont's acrylic fibre
**Trademark for Dupont's polyester fibre

711-7

Now 47.6 DOZEN PAIRS per 8-HOUR SHIFT* ...1 OPERATOR



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Knitting Machine Division
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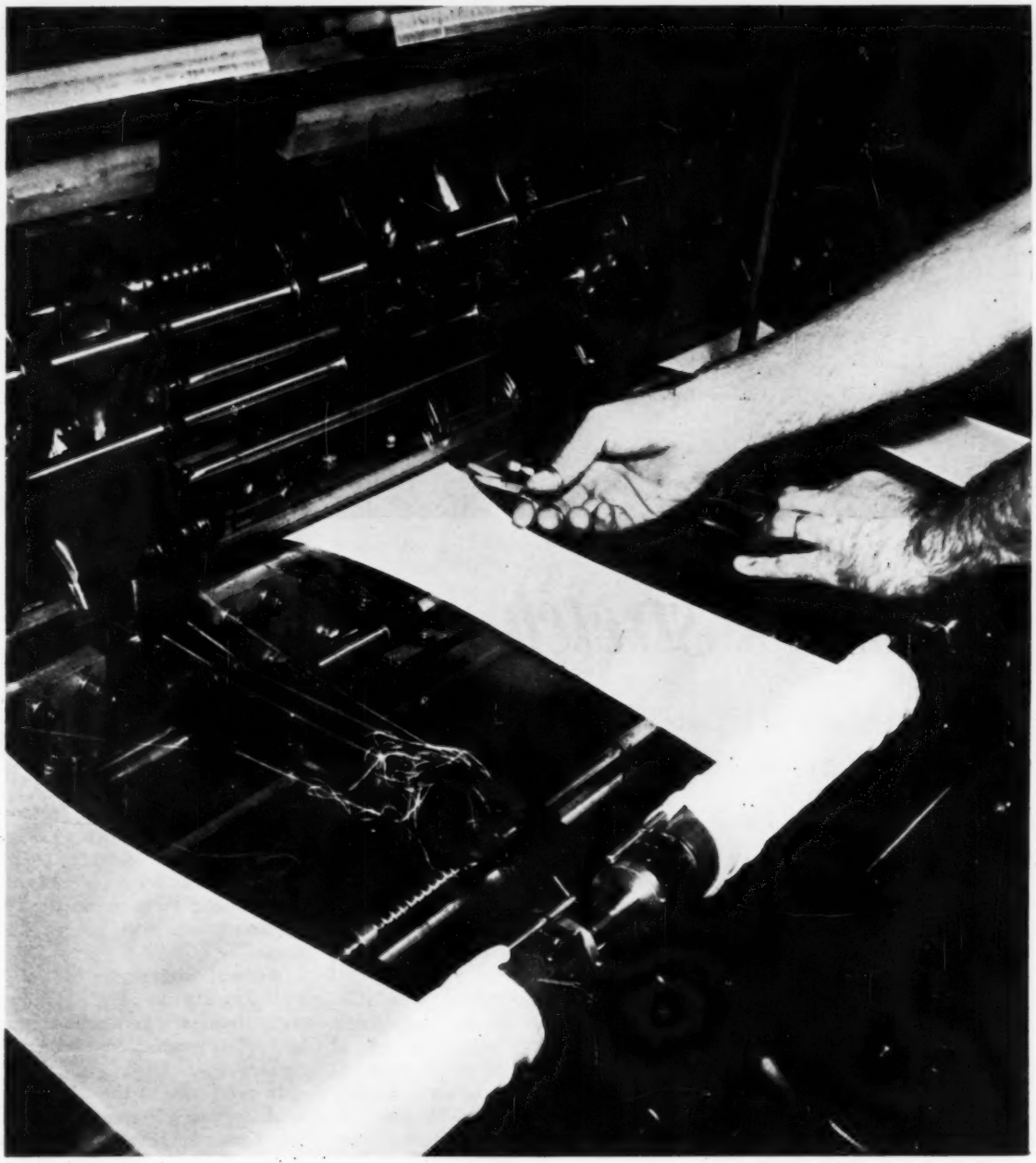
Reconditioning Plant at Asheboro, N. C.
Builders of Textile Machinery Since 1900

* Stocking styles: Size 10, 60-gauge, 15 denier. 2406 courses (including idle courses) with 62 narrowings in the main, and 120 narrowings in the splicing, heel, foot and toe. Design placed in afterwelt.

The "READING"
Full-Fashioned Knitting Machine

KNITTER HINTS NO. 52

USE SHARP SCISSORS



Dull ones may cause pull threads

Trim along this line to post on bulletin board in full-fashioned knitting department

Figure 1

Figure 2

Women's stretch hose standards

should be extended to cover needle width and finishing practices

by John Gift
Exclusive

WHEN monofilament stretch full-fashioned hosiery was developed several years ago, it was hailed by manufacturers as a forward step in the women's hosiery field. To what extent did the public accept this type hosiery?

According to a statistical survey, approximately 15 per cent of women's full-fashioned hosiery production has been of this type. Manufacturers plunged into stretch hosiery production with high hopes.

Perhaps in the rush to get their share of the business there was a high percentage of slipshod, ill-fitting hosiery thrust on the consumer. The fact that monofilament left and right torque yarns are used does not guarantee fit unless proper construction and quality supervision are included.

Stretch Standards Available. Recently Patentex, Inc., introduced a set of standards for this type of hosiery, standards which were accepted by the women's hosiery committee of the National Association of Hosiery Manufacturers. These include the total courses in short, medium, and long sizes. Included also are measurements for using the Textile form to test length and volume.

The form is good for setting up new styles, as to courses and needle width, to insure good looking fabric and proper wearing length. This form is not used for periodic measurement of production to maintain length standards.

Without detracting from the Patentex standards, the following suggestions are pertinent to quality in the production of this type hosiery.

In reference to the 2200-course, medium-size, 60-gauge full-fashioned construction shown in their standards, no mention is made as to the needle width in any portion of the leg or foot. Since needle width and number of courses determine the volume of a full-fashioned stocking, both should be in-

cluded in establishing complete standards.

The monofilament nylon used in this type of hosiery has a high torque characteristic to contract the fabric linearly; we call the end product a stretch stocking.

*If the stitch is too small, some of the torque value is lost because it cannot contract fully. If the stitch is too large, the result will be a soft stretch and a lazy snapback. When courses only are considered, the above mentioned condition can exist between different manufacturers.

Standards Can be Defeated. The following will show how this can happen: Suppose a needle width of 500 before calf narrowings, 300 at ankle and sole, plus 2200 courses, and X number of inches (on the Textile form) would make

(Continued on page 145)

Extract from NAHM-Approved Standards for Women's Stretch Hose

(Complete standards available from National Association of Hosiery Manufacturers)

In the boarding operation of seamless stockings great care must be taken. Some of the stretch must of necessity be removed from the foot, instep and ankle areas, due to the fact that fabric relaxation width-wise in seamless stockings is not as complete as in full-fashioned stockings. There is also danger when boarding these stockings of pulling down too hard, which will decrease the amount of stretch in the upper boot area. To make sure that too much stretch has not been removed, minimum standards have been set up for three areas—foot, including instep; ankle; and upper boot [see Table 1]. For easy measurements, a scale is provided with these standards. To check stretch, merely lay a span of fabric from start line either on the 5 or 10 cm scale, then grasp fabric between thumb and forefinger removing all stretch and read off directly in per cent of stretch. Measure on front edge of fabric.

It has been proven by repeated tests that the minimum standards herein set forth if properly followed, including yarn [Table 2], coursing, fit testing and boarding [Table 3], will produce stockings of the proper stretch and recoverability with very little, if any fatigue. Lack of fatigue after many flexings is the characteristic of good quality stretch.

TABLE 1

	Foot	Ankle	Upper Boot (Knee Area)
Minimum % stretch, seamless hose	65	65	175

TABLE 2

Yarns — Partially and Fully Set — Monofilament*

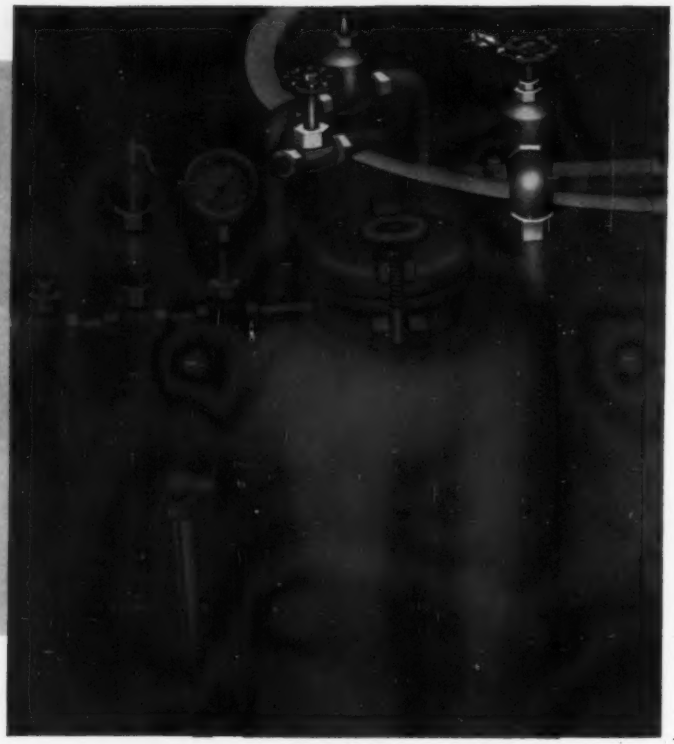
	Denier	For Full-Fashioned	For Seamless
*Minimum turns per inch for both S & Z	15	15 turns	20 turns
	12	18 turns	23 turns
	10	18 turns	23 turns
	7	22 turns	27 turns

TABLE 3

Fabric Construction

Description	Kind of Yarn	Gauge/Needles	Small	Medium	Large
		FULL FASHIONED			
Minimum over-all courses	Partially & fully set	51	2125	2230	2375
		60, 66	2175	2300	2425
	High twist-fully set (Chadolon type)	51	2100	2200	2375
		60, 66	2100	2200	2425
Minimum foot sizes knitted	All	51, 60, 66	9½	10½	11½
Finished lengths Flat relaxed					
Maximum over-all ± ½"	All	All	23½"	25"	26½"
Maximum foot ± ¼"	All	All	7¾"	8¼"	9¼"
		SEAMLESS			
Minimum over-all courses*	Partially & fully set	400, 474 mesh	2352	2550	2676
		400, 474 plain	2280	2478	2604
Minimum foot sizes knitted	All	All	9½	10½	11½
Finished lengths Flat relaxed					
Maximum over-all ± ½"	All	All	23½	25	26½
Maximum foot ± ¼"	All	All	8⅜	8¾	9¼

*Count courses beginning at start of inside welt ending at looper line
Count heel and toe courses at 6 per link



High Temperature Package Dyeing Requires Over-Pressure

The Steverlynck Over-Pressure System is available exclusively from Smith-Drum, for new or existing machines. Check these advantages:

(1) Constant rate of flow of dye liquor is maintained throughout the entire operating temperature range. Present-day conventional high temperature machines do not maintain constant rate of flow.

(2) No loss of dye liquors due to thermal expansion during heating phase.

(3) May also be used as a high temperature dye feed unit.

The increasing trend toward high temperature dyeing of synthetic yarns requires your investigation of the Steverlynck System. New bulletin gives full details.

Smith-Drum Division
Turbo Machine Co., Lansdale, Pa.
Southern Sales Representative: Parrott & Ballentine, Greenville, S. C.

TURBO SWEATER SETTER FOR BAN-LON

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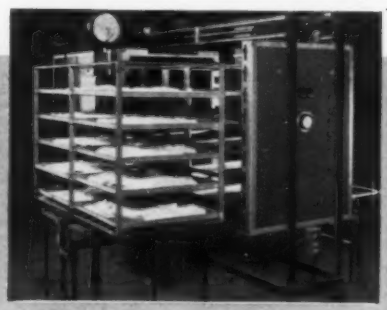

4-yarn overplaid hosiery

with crossing of the colors is machine-made in a Pennsylvania mill

by Thomas Oliver, Jr.
Oliver Knitting Co.

THE WOOL - NYLON men's hosiery pictured here is presently being made by the Oliver Knitting Co. of Philadelphia, Pa. The regular diamond overplaid argyle in the top photos is designated Style No. 818, while the sock below with the side panels of overplaid diamonds is No. 819.

Note that in both of these only four yarns are used in the overplaid, just as in hand framed hose. Inspection of the inside of the hose (right photo in each instance) will show the lack of floats of the overplaid yarns and the neat arrangement of these yarns, again like hand framed types.

In these hose the overplaid yarns cross the suture lines and thus provide a stronger stitch arrangement. The overplaid yarns are tied in during the knitting at their ends so as to avoid the pulling out of these yarns at their terminal points of knitting.

In the No. 819 sock the overplaid yarns are all of the same color for reasons of color design, since varicolored overplaids with the four colors of the side diamonds would provide too much color. As it is, two diamonds are of the same color.

In both numbers, the sutures between the diamonds are of straight line arrangement without stitches of one color appearing in the adjacent diamond of another color. And the sutures are of close knit construction without holes of significant size.

In the No. 818 the overplaid yarns are crossed as in the hand-framed styles. The overplaid color in the upper front and lower rear diamonds is the same—that is, red. In the upper rear and in the lower front diamonds, the overplaid is the same—that is, black. In the side full diamonds, a red yarn crosses a black yarn; and in the upper and lower side half-diamonds, the red and the black yarns meet at the

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REMAZOL dyestuffs are chemically different and unique. The only fiber reactive dyestuffs forming an irreversible ether linkage making the color an integral part of the cellulose.

- All fixed quickly.
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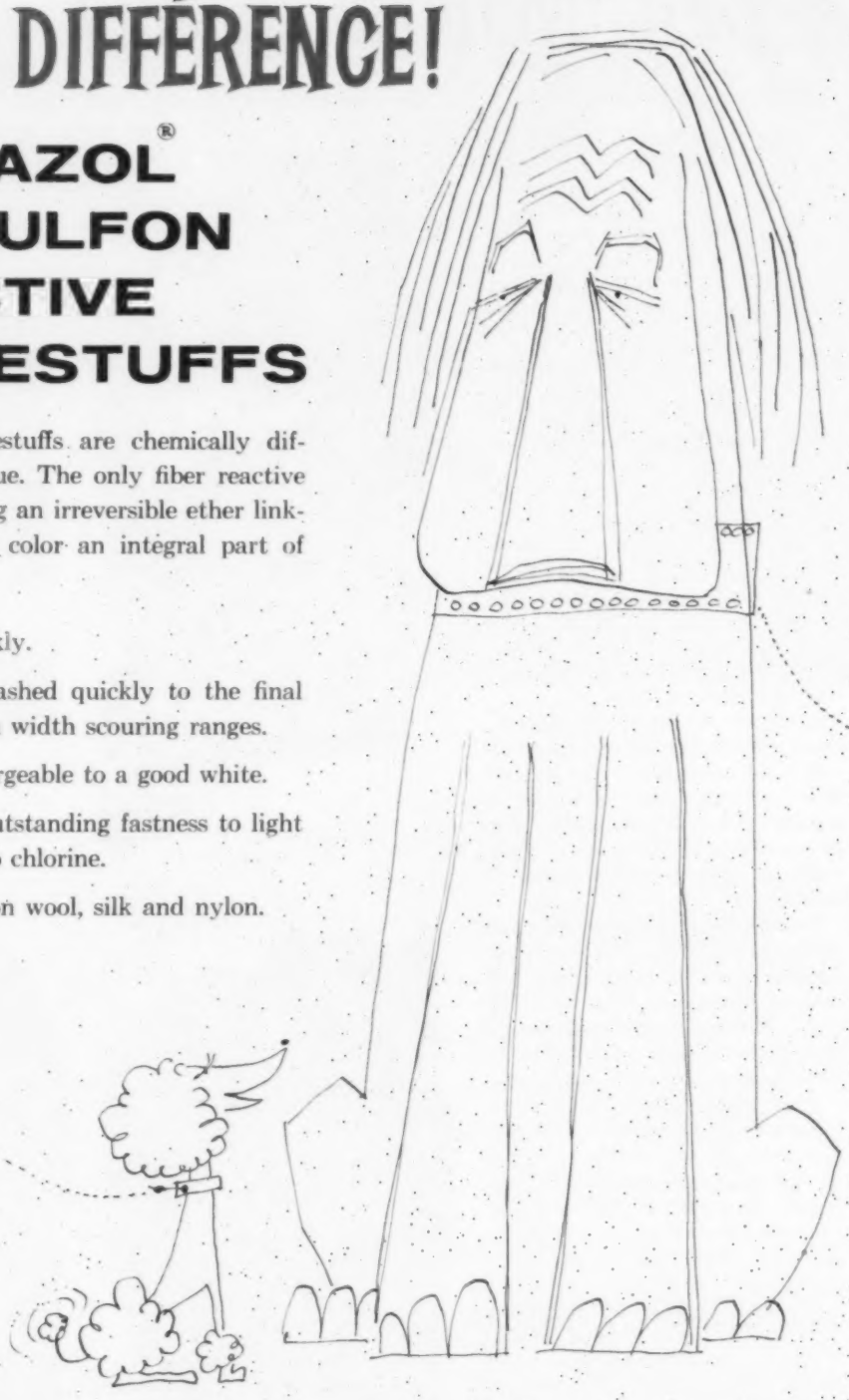
- Can be used on wool, silk and nylon.



developed and patented by
FARBWERKE HOECHST AG.
Frankfurt, West Germany

manufactured by
HOECHST CHEMICAL CORP.
West Warwick, R. I.

HOECHST

Watch for future developments

CARBIC COLOR & CHEMICAL CO., INC.
451 WASHINGTON STREET, NEW YORK 13, N. Y.
CHARLOTTE • PROVIDENCE • PHILADELPHIA • COLUMBUS • LOS ANGELES • HAMILTON, ONTARIO

centers. Yarns of each color extend in a spiral of 360 degrees around the sock.

In other words, the overplaid produced is exactly the same as that found in hand-framed hosiery.

Equipment Used. These socks are made on the "Reading" CK machine upon which certain attachments have been added. The attachments were made by Nathan Levin at and with the cooperation of the Oliver Knitting Co.

The machine is able to operate as a fully automatic unit because of the addition of an automatic take-up which eliminates the need for stopping the machine at intervals. Production is 5½ to 6 dozen pairs per eight-hour shift.

One improvement in hosiery made by this method is the elimination of the holes which are formed by conventional equipment at the places where feeds are made active and inactive, including the start of the top.

By using only four yarns in the overplaid, yarn is saved, float trimming is eliminated, and a sock of improved construction is provided.

Other types of argyle patterns may be made within the patterning scope of the CK machine. A special yarn take-up has been provided to insure that there is no slack in the body and in the overplaid yarns during reciprocating knitting.

At the present time, it is contemplated that other mills will be licensed on a fabric royalty basis, under a number of patent applications.

Data on equipment in U. S. tricot mills

■ U. S. mills reported having 2845 tricot machines, 319 simplex machines, and 9 Milanese machines in 1957, according to the statistical survey of the tricot knitting industry for the year published by Textile Machine Works.

Only 16 per cent of the machines were 30 gauge and finer; 83 per cent were said to be 28 gauge; and 1 per cent 26 gauge and coarser.

The state having the largest number of tricot machines was New York, with 741 or about 23 per cent; Pennsylvania was second, with 726. There were 1377 machines in the South.

More than half of the 120 mills reporting had less than 20 machines—67 mills operated 624 machines. 33 mills operated from 20 to 50 machines, the total number being 1050. 20 mills with a total of 1499 machines operated more than 50 machines.

The number of machines which were operated at speeds under 400 courses per minute was 1378; between 400 and 600 cpm, 1664; over 600 cpm, 131.

Only 206 of the 3173 machines was of the 3-bar type; the remainder were said to be 2-bar units.

Stretch standards

(from page 141)

a 60-gauge, medium-size, 15-denier monofilament stretch stocking of the exact volume and stretch acceptable to the N.A.H.M.

Any manufacturer using the same specifications would have identical stretch and volume because the stitch size would be identical. The above needle widths are not claimed to be correct, but are to illustrate the point.

Some manufacturer might use the 2200-course standard as suggested, but may have 524 needles before calf narrowings and 324 at ankle and sole. Due to the plus difference in needle width, his stocking stitch would have to be smaller to avoid excessive over-all volume.

The smaller stitch would result in loss of torque value (refer to paragraph above marked*). The opposite would result if the needle width were 476 before calf narrowings and 276 at ankle and sole. A larger stitch would be required to obtain the desired volume. This would cause a soft stretch and a lazy snapback.

Finishing is Important to Size. Another factor in promoting customer satisfaction is proper finishing of this type of hosiery. There are many claims that, in making conventional 15-denier full-fashioned hosiery, variation in length can be held to 1 inch. In reality a variation of 2½″ or 3″ would be a more accurate figure.

There is no reason to assume that in producing a 15-denier stretch type, the same variation will not prevail. However, conventional stockings must be boarded to their normal knitted length to prevent wrinkled fabric, and they are paired accordingly.

Let's see what can happen in boarding and pairing stretch-type hosiery. They are boarded in a relaxed condition so that a maximum stretch is retained. To illustrate (see *Figure 1*), this stretch stocking is extended to its full length and then set up to a length determined by measuring its extended length first.

Suppose the extended length were 31 inches. The position this stocking should be set at would probably be the 24-inch line on the board (see *Figure 2*). A 30- or 32-inch stocking should be set at the 23- and 25-inch line respectively.

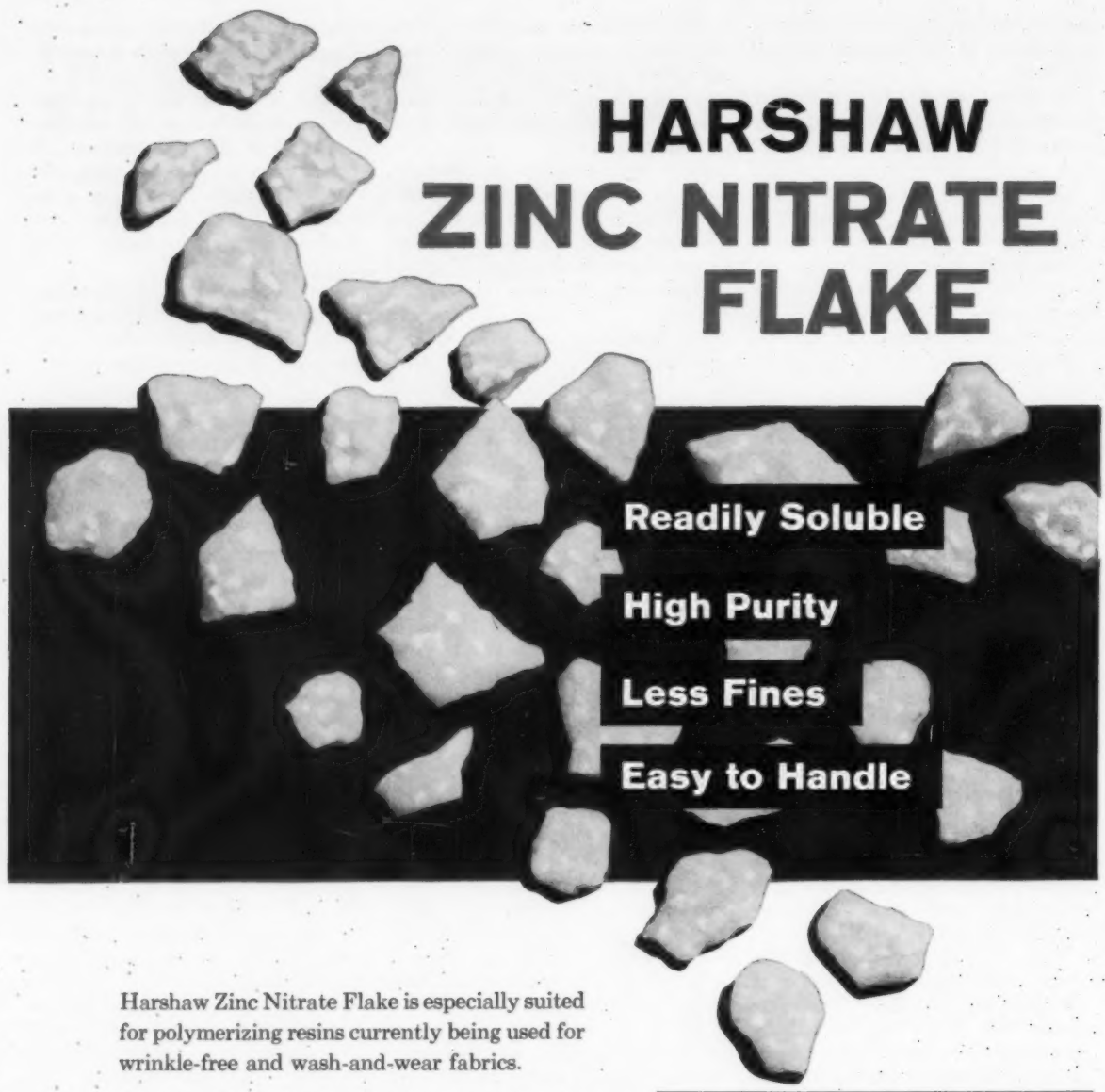
However, they could also be set at the 24-inch line and all three stockings would have practically the same finished length. Naturally they would be paired together although the wearing length would be different.

But can't this mismatched pair be gartered at the same position in the welt and the difference not be noticed? Remember these are stretch hose, and they adhere to the leg.

The average wearer can feel the difference in a pair of hose which vary as little as one inch in wearing length and are gartered at the same welt depth. If they are pulled up until they feel the same, the heels will be different in height and have a bad appearance, to say the least.

The above reasons may be at least partly responsible for the relatively poor customer acceptance of monofilament stretch hosiery. Perhaps a complete set of standards and specifications for all types of hosiery would benefit what was once a more profitable industry.

HARSHAW ZINC NITRATE FLAKE



Harshaw Zinc Nitrate Flake is especially suited for polymerizing resins currently being used for wrinkle-free and wash-and-wear fabrics.

Harshaw Zinc Nitrate Flake is produced under rigid control assuring the user of uniform resin catalysis at all times.

Harshaw Zinc Nitrate Flake measures about $\frac{3}{32}$" thick by $\frac{1}{2}$" long, thereby reducing dust and fines to absolute minumum.

Packed in 300 or 100 pound Leverpak drums with polyethylene liner, Harshaw Zinc Nitrate Flake is available for immediate shipment. Write for samples and prices.

TYPICAL AVERAGE ANALYSIS:

Assay as $Zn(NO_3)_2$	72.5%
Zn	24.6%
Fe	0.001%
Pb	0.003%
pH of 5% solution	5.2
Insol. in 1% Nitric Acid Solution	0.001%

THE HARSHAW CHEMICAL CO.
1945 E. 97th Street, Cleveland 6, Ohio

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OIL IS SUPPLIED TO BOTH TOP AND CONICAL BEARING SURFACES THROUGH SEAMS.
LESS OIL IS NEEDED.
TRAVELER DISTRIBUTES OIL.
OIL FLOWS TO ANNULAR RESERVOIR WITHIN THE RING, THEN IS DRAWN BY CAPILLARY ACTION THROUGH SEAMS.

New..."M" type HERR Conical Ring

better lubrication with less oil

SEAM LUBRICATION. A new idea . . . utilizes the principle of capillary attraction to provide more uniform lubrication than has been possible in the past. It is the outstanding feature of the new "M" type ring.

SEVERAL YEARS EXPERIENCE IN SOME OF THE LARGEST TEXTILE PLANTS HAVE ESTABLISHED THE BENEFITS OF THIS RING.

1. **LESS OIL IS USED IN THIS NEW "M" TYPE RING** because no oil is wasted. It all goes to the bearing surfaces of the ring through the seams.
2. **TRAVELERS LAST LONGER.** As a matter of experience in mills which have been using "M" rings for the past three years, the uniformity of lubrication increases traveler life.
3. **RINGS LAST YEARS LONGER.** High speed operation for years has established the superiority of the new design.
4. **CLEANER YARN.** With better oil distribution and no leakage, mills are getting cleaner yarns.
5. **FASTER OPERATION.** Speed-up is possible without extra wear to ring and traveler. The traveler receives oil from the lubricating seams over the complete bearing surfaces of the ring.
6. **REDUCES YARN BREAKAGE.** As in all Herr Conical Rings, tension is automatically adjusted by the action of the traveler and conical design of the ring.

Write today — get facts that will make new profits possible.

The 5½" diameter 4 3/64" face Herr Conical Ring requires only one oil cup.

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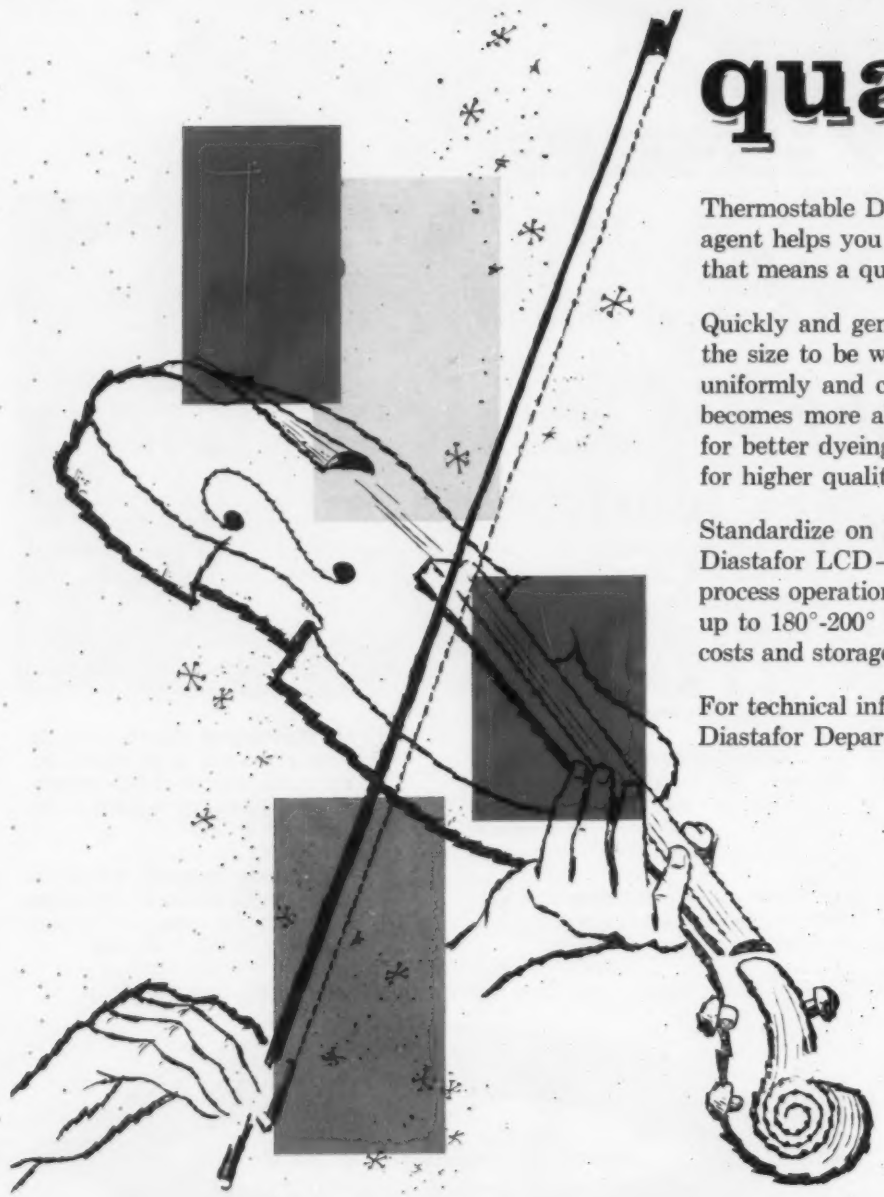
FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES

DYERS AND FINISHERS GET

quality



Thermostable Diastafor desizing agent helps you get the good prepare that means a quality finish.

Quickly and gently Diastafor permits the size to be washed away uniformly and completely. Cloth becomes more absorbent– for better dyeing and bleaching– for higher quality finished goods.

Standardize on high quality with Diastafor LCD–for fast continuous process operations at temperatures up to 180°-200° F. Saves time, costs and storage space.

For technical information, address: Diastafor Department.

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NEW PRODUCT PARADE

Machines and Equipment . . . Supplies and Services . . . Dyes and Chemicals . . . Books

Please note: Claims made in all of these announcements of new developments are of necessity based upon information furnished by the respective suppliers.—The Editors.

Fully automatic vacuum cleaner for spinning

A new traveling vacuum cleaner system for spinning rooms works in conjunction with frame and ceiling blowers. The vacuum cleaner automatically collects, stores, and conveys lint from the manufacturing area to a central collecting point.

The frame and ceiling blowers prevent lint from accumulating on overhead and the frame surfaces. Lint removed by these devices settles to the floor, where it is picked up by the suction inlets of the traveling vacuum cleaner. The lint is drawn through flexible fabric sleeves to a storage compartment in the top of the unit. The vacuum cleaner conveys this lint to a point where it is automatically discharged into a receiving station.

The lint is then conveyed from the receiving station through a vacuum material handling fan to the waste house or to a collecting point within the room.

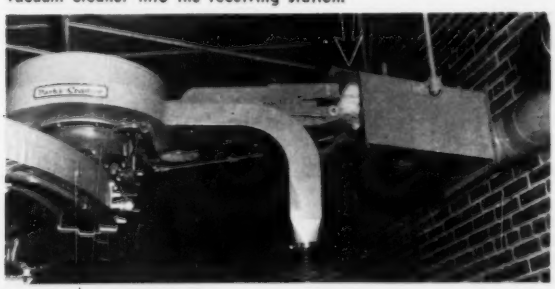
Several receiving stations can be connected to a single fan. The vacuum cleaner can be used on either continuous or reversing track layouts.

A new feature of the Parks-Cramer combination frame and room cleaner is that only one motor is utilized in the unit.

Parks-Cramer Co., Fitchburg, Mass.

Do you want more data? Write ◆ or use card on page 173; list N-101

Arrow points to lint being automatically discharged by the traveling vacuum cleaner into the receiving station.



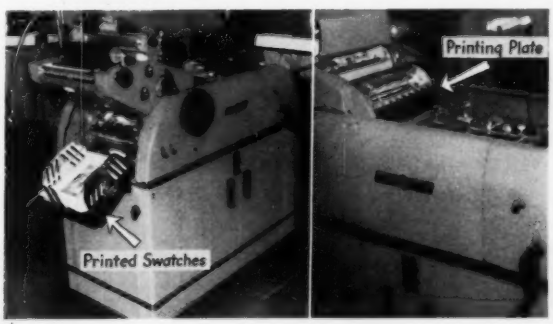
Parallel motion reduces seconds

A new loom parallel motion gives shuttle flight accuracy by maintaining power stroke travel of .010." It can reduce ends down in weaving by more than 60 per cent. Additionally, shuttle marks are practically eliminated, shuttle wear is reduced, heel strap replacement costs are reduced, picker stick life is increased, and parallel maintenance cost is made negligible. The motion is self-lubricated and easily adjusted.

James Hunter, Inc., 745 Loundes Hill Rd., Greenville, S. C.

Do you want more data? Write ◆ or use card on page 173; list N-102

Inexpensive way to make print strike-offs



Print strike-offs can be made inexpensively on the Class 1250 Multigraph Multilith Offset Duplicator which is available in two models and affords print swatches in sizes from 8" x 10" to 17" x 19". Any number of colors per pattern are possible, and all shades and colors can be matched.

The method eliminates the need of engraving rollers for new designs at a season's beginning (it is estimated that

DEPENDABLE FLEXIBLE SOURCE OF MAJOR CHEMICALS FOR THE TEXTILE INDUSTRY

CARBON BISULFIDE exceeds 99.99% purity. Stauffer was the first—is still the largest—producer of this essential chemical. Shipped in tank cars of 8000 and 10,000 gallons from Bentonville and Roanoke, Va., Lowland, Tenn., LeMoyne, Ala., Chester, Pa., and Perry, O.; in 5, 10 and 55-gallon drums from LeMoyne and Richmond, Cal.

SODIUM HYDROSULFIDE in aqueous solution of high purity and highest practical concentration is shipped in tank cars of 8000 and 10,000 gallons from Chester, Pa., Roanoke, Va., Lowland, Tenn., and Richmond, Cal.; in 55-gallon drums from Chester and Richmond and in tank trucks from Richmond.

CAUSTIC SODA of 50% and 73% liquid Rayon Grade is shipped in tank cars of 8000 and 10,000 gallons from Niagara Falls, N. Y.

SULFURIC ACID is available in commercial grades of 77.67% to 122.5% H_2SO_4; as Oleum of 15% free SO_3 to 100% liquid SO_3, and as regenerated, water-white 98% H_2SO_4. Shipments are made in barges, tank cars, tank trucks, drums and carboys from many points in the South, Midwest and West.

For continuous, dependable, flexible supplies of textile chemicals...make your arrangements with Stauffer.

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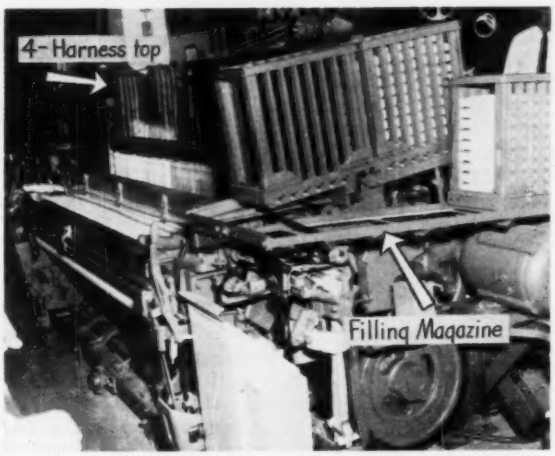
Stauffer CHEMICALS SINCE 1885

about 50 per cent of new designs do not reach production). Operator training is included in the equipment cost.

Addressograph-Multigraph Corp., 1200 Babbitt Rd., Cleveland, Ohio.

Do you want more data? Write ◆ or use card on page 173; list N-103

More versatile high-speed wide sheeting loom



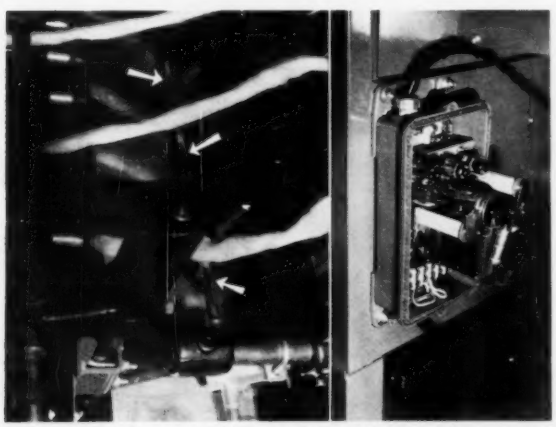
The Draper XP-2 wide sheeting loom is now available with a top motion which permits the use of four harnesses, as shown in the accompanying photo. Until now this high-speed loom, which is built to weave cloth of 72", 82", 90", and 100" widths, was manufactured with (1) roll and shaft top (two sets) with anti-friction bearings; (2) dobby —16-harness, 15/32" gauge (for 72" looms only); or (3) Jacquard heads.

Another new feature which can be supplied with the loom is the Draper automatic filling magazine (see photo).

Draper Corp., Hopedale, Mass.

Do you want more data? Write ◆ or use card on page 173; list N-104

Device stops slubber when sliver breaks in creel



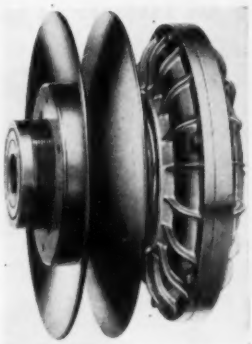
Left photo: Close-up of slubber showing sensitized rod (arrows point to it) located between sliver lifting roll and drafting mechanism. Right: The electronic control mounted on the frame.

A slubber stop motion known as Electrofil uses a sensitized rod located under the front lifter roll to detect a sliver break. As the sliver drops and touches the rod it breaks a circuit that stops the frame, with a sliver tail left hanging for quick and easy piecing-up.

Pneumafil Corp., P. O. Box 8336, Charlotte 8, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-105

Gives frames soft starts, sustained speeds



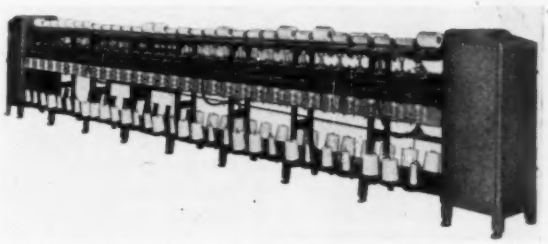
Fly frames, spinning frames, twisters, etc., are given soft starts and are maintained at selected speeds by the Flexidyne variable pitch drive (a variable pitch sheave combined with a 9D Flexidyne dry-fluid drive). It provides cushioned starting in a range of pitch diameters from 5.5 to 10.00.

Pitch diameter is quickly changed by turning the sheave flanges upon the hub, the flanges (threaded right and left) turning together to keep the center of the groove in the same position for all pitch diameters. Taper-Lock companion sheaves, Sealed-Life belts, and slide motor bases may be used with the unit. It also can be incorporated in existing drives.

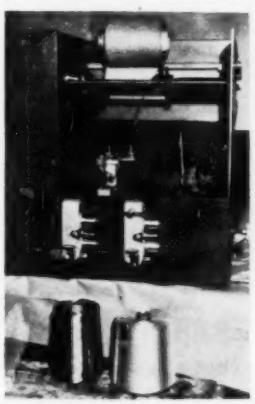
Dodge Mfg. Corp., Mishawaka, Ind.

Do you want more data? Write ◆ or use card on page 173; list N-106

Makes jumbo packages of textured yarns



Above: 60-spindle Texturizer. Below: single-spindle unit.



The Jumbo Texturizer permits any of the standard textile yarns (synthetic or natural) to be converted to "Taslan" textured yarn and put up in packages of 10" diameter and 10" traverse. Individually, or in any combination, the machine processes such yarns as nylon, Dacron, Orlon, rayon, acetate, glass, silk, and others.

Each of the machine's individual positions is equipped with an automatic release, pivot-type take-up mandrel to increase operator efficiency. A locking device assures parallel alignment to each cork roll. Each take-up package is equipped with a positive control stop motion.

Individual end stop motions, to control run-outs or

no more knuckle-busting...

New RIDGID 450 Portable Tristand Chain Vise

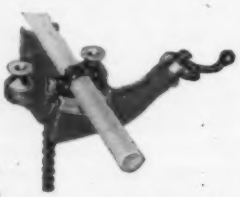
has Large, Easy-to-Operate Top Screw Handle right up on top!

Here's a real time saver. Not only do you get a complete workbench that's truly portable, but now you get a chain vise that's extra easy and fast to operate. Handle is right up on top where it's always handy. Handle and tightening nut are anchored to vise base . . . can't pull out.

Vise base, that overhangs front legs for clear tool swing, has hanger slots for tools, 3-size pipe bender, rear pipe rest and adjustable ceiling brace screw. Folding legs and integral tray set up easily and lock in position for rigid work base. Snap chain holds folded legs closed for easy carrying . . . no loose parts. Rubber grommets in tristand feet prevent creeping. See and try this more-for-your-money RIDGID Top Screw Chain Vise at your Supply House!

New RIDGID Bench Chain Vises have same Extra-Efficient Top-Screw Adjustment.

5 Sizes for ⅛" to 8" Pipe, Conduit or Rod



The Ridge Tool Company, Elyria, Ohio, U.S.A.

breaks at the supply package, are also available.

The feed rolls have a positive-action gear drive in which all gears are constantly in mesh. It may be equipped with double sets of feed rolls for processing effect-type yarns.

Finger-touch synchronization of yarn delivery speed with take-up roll speed is provided by a clutch device for starting the yarn feed at a constant rate without slippage.

A positive chain and gear drive delivers a uniform yarn winding speed with only one gear to change to vary the speeds. The traverse motion is actuated by a grooved cam mounted on roller bearings. Each traverse arm is rigidly mounted on prelubricated ball bearings.

Each side of the machine is provided with supply package holders to accommodate a variety of yarn packages. These are angle-mounted with a spring tension that permits easy package doffing and automatic return to tilted operating position.

Feed roll shafts have a sprocket and gear drive arrangement with a variable over-feed control. The percentage of over-feed can easily be varied by changing only one gear.

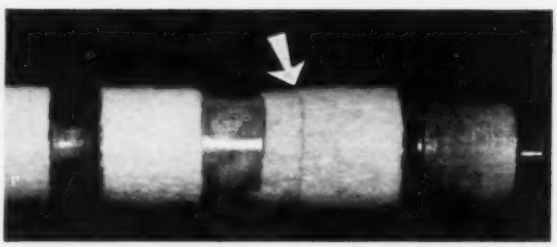
The machines are provided with dual air lines, valves, and gauges, ready for hooking to mill compressed air lines. Air lines are completely equipped with petcocks—ready for the insertion of the texturizing jets. These may be supplied with the machine.

Also available for making sample yarns is the U. S. Acme single-position Texturizer that provides a single-unit counterpart of full-size machines.

U. S. Textile Machine Co., Scranton 8, Pa.

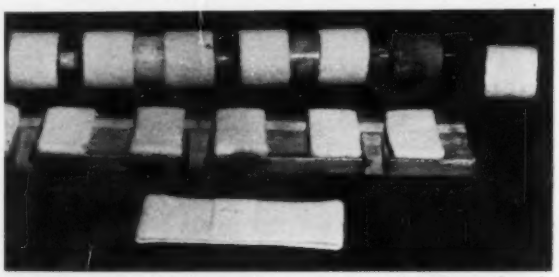
Do you want more data? Write ◆ or use card on page 173; list N-107

Water-shrink this endless clearer cover to roll



Tubular scavenger roll covering (wool) is applied by slipping the correct length in place on the roll and immersing the assembly in water. The resulting shrinkage tightens the cover against the roll in a slip-free state—without an adhesive. It does not work loose.

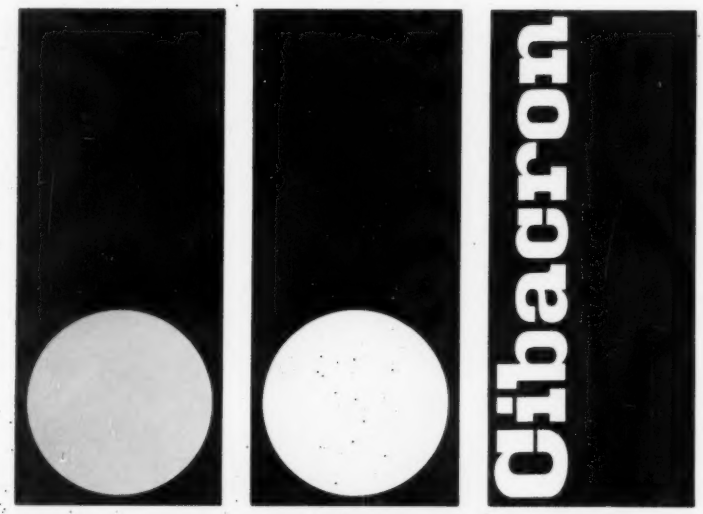
A cover may be slipped over a section that is in good condition and attached to any part of the scavenger needing a new cover.



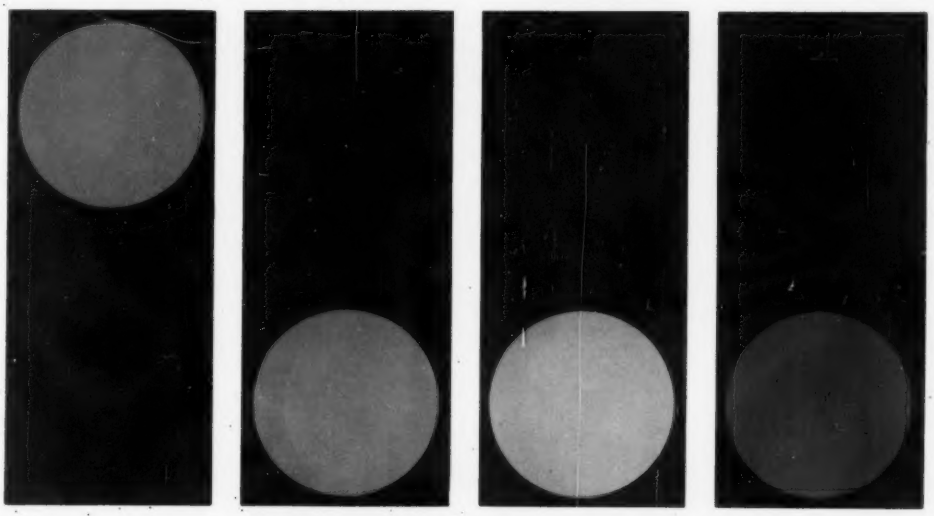
The endless clearer (foreground) may also be used on clearer boards as well as revolving types.

Edward H. Best & Co., Inc., P. O. Box 1752, Boston 5, Mass.

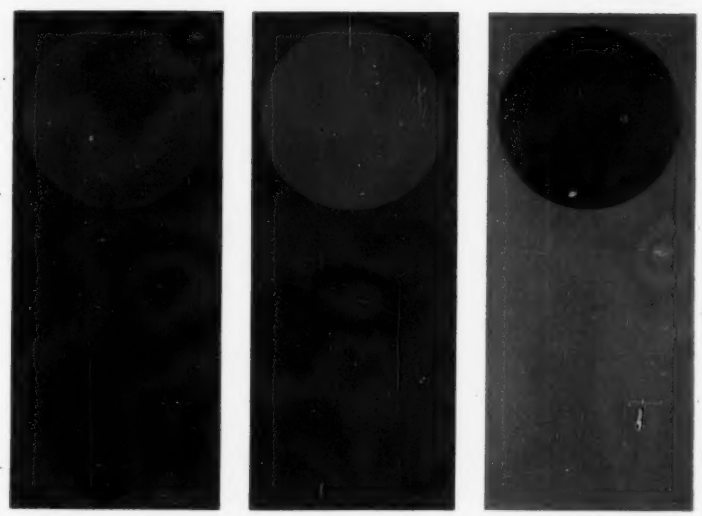
Do you want more data? Write ◆ or use card on page 173; list N-108



THE UNIQUE BRILLIANCE, FASTNESS AND PROVEN VERSATILITY OF CIBACRON® DYES for printing and dyeing on all cellulosic fibers have won immediate recognition and a permanent place for these original fiber-reactive dyes. An almost unlimited range of brilliant shades can be matched in clean, sharp prints and dyeings. Color yield is high, and high-speed equipment can be used. In bringing a new kind of beauty to modern printing and dyeing, the CIBACRON Dyes do not require complicated or expensive application methods but rather adapt readily to standard print shop and dyehouse procedures. On wool, too, the CIBACRON Dyes can be used to produce a combination of brilliance and fastness while retaining the fullness and softness of the wool fiber by the simple addition of NEOVADINE®AN to conventional wool dyeing formulae.



C I B A



"When it comes to rug backings," says Mr. M. Mead of Roxbury Carpet Company, Saxonville, Massachusetts, "we need more than a dependable source of supply. We need facts . . . facts about new polymers, new processes that can help us to maintain our high standards of quality.

"That's what the General Latex 'facts service' provides. Their people keep us informed at all times on new developments — save us time, trouble and money."

Roxbury Carpet Company, one of the nation's oldest manufacturers of woven carpets, receives this type of service from General Latex. So do all other General Latex customers, large and small. Information about the "facts service" is yours for the asking. Write today.

"General Latex 'facts service' helps us sell quality carpets."

MR. M. MEAD, FINISHING DEPARTMENT HEAD OF THE 99 YEARS YOUNG ROXBURY CARPET COMPANY, INSPECTS A CUSTOM-BLENDED GENERAL LATEX BACKING ON A SAXONVILLE GRADE AXMINSTER QUALITY CARPET.

GENERAL LATEX AND CHEMICAL CORPORATION

. . . 666 Main Street, Cambridge 39, Mass.

General Latex and Chemical Corporation (of Ohio) Ashland, Ohio
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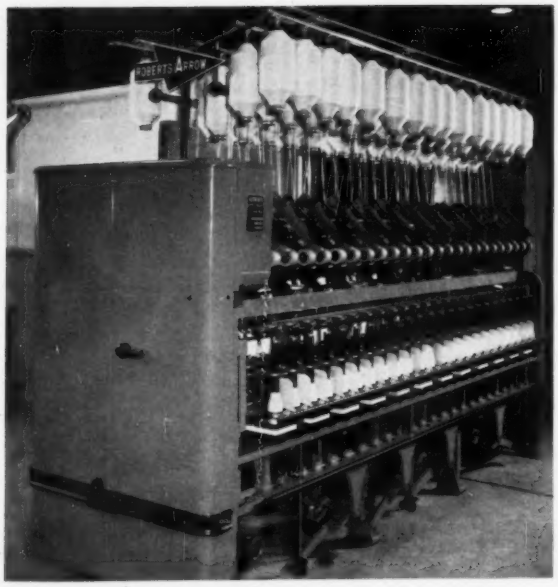
VULTEX

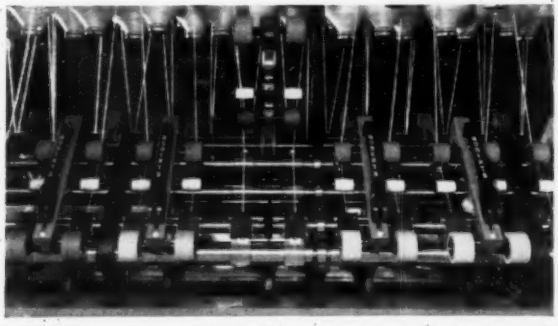
Latex importers and compounders. Representatives in principal cities — exclusive agents for sale in U.S.A. of Harrisons & Crosfield Malayan Latex — sales agent in U.S.A. for Goodyear's PLIOLITE Latices



Roll setting minimized on new worsted frame

The Arrow Short-Flow Model WM-2 spinning frame will draft fiber lengths from three inches to eight inches. Made for spinning worsteds, synthetics, or blends of both, it uses double-apron drafting that permits handling a variety of fiber lengths without changing roll settings.

The four top rolls are mounted in ball bearings. A



suspension weighting system eliminates all cap bars with the resulting cleanliness and freedom from oil. The four bottom rolls are mounted in heavy-duty ball bearings that are grease packed for life.

The frame, with a double line of ball-bearing tension pulleys, has a simple arrangement for reversing the twist. It is made in 4½" gauge and 36" width.

Roberts Co., Sanford, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-109

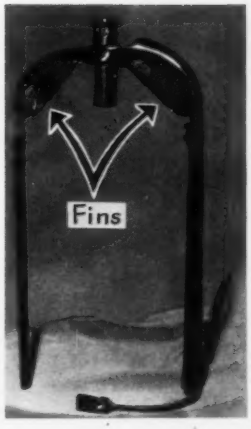
Feeder assures accurate blends

The Proctor Fiber Blending Feed Model 729 assures maximum blending accuracy and production efficiency. The drop bottom scale pan features low tare weight and inertia for maximum scale sensitivity. The scale pan is calibrated in half-ounce increments for easy setting of desired blend proportions.

Proctor & Schwartz, Inc., Seventh St. and Tabor Rd., Philadelphia 20, Pa.

Do you want more data? Write ◆ or use card on page 173; list N-110

Finned Flyers run faster, stay cleaner



Higher flyer speeds are possible with a new flyer equipped with fins that act as leg braces. The fins create air currents that help keep the flyer and presser clean.

Ideal Machine Shops, Inc., Bessemer City, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-111

Yarn in these boxes is always visible, accessible

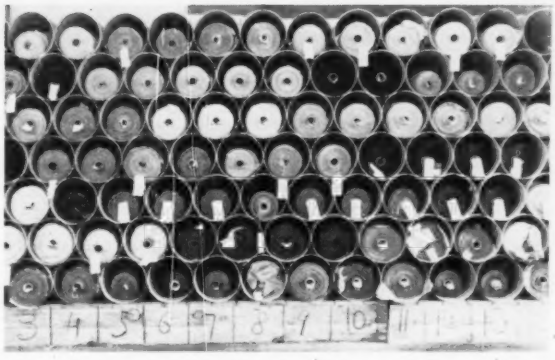
Custom-built for the textile industry, "Textile Palletainers" are designed for in-work storage of cones, springs, quiller bobbins, delicate yarns, etc. The units are made of steel wire mesh under special protective finishes and have reinforced deck bases for safe lift-truck handling. The contents are always visible, always protected.

Other features include: "knock-down" construction that permits folding the empties into a flat package; high capacities with little tare; drop sides, ends, or gates; snagproof finish; casters if desired; and protective liners.

Union Steel Products Co., Albion, Mich.

Do you want more data? Write ◆ or use card on page 173; list N-112

Tubes simplify roll goods storage and handling



Sonoco storage tubes provide a simple, low cost storage system for roll goods such as carpeting, upholstery fabrics, etc. Available in standard diameters up to 36" and in regular or special lengths, the tubes permit a roll of cloth to be located instantly for easy removal or replacement—without disturbing surrounding stock. Goods are kept in better condition, with less chance of damage from stacking.

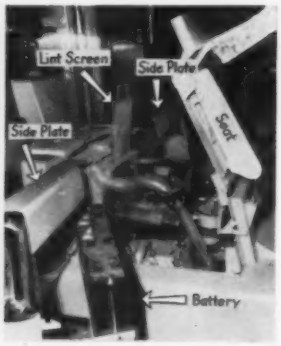
The tube storage system can be installed easily and

quickly; it is safe, compact, fire-resistant. An efficient inventory control can be established by simply lettering or numbering the tiers. Time and labor are saved in handling. Fork trucks, overhead hoists, or manual handling may be utilized.

Sonoco Products Co., Hartsville, S. C.

Do you want more data? Write ◆ or use card on page 173; list N-113

Fork truck designed for textile plants



A fork truck designed especially for textile use is available in a 2000-lb capacity unit. Equipped with pneumatic front tires for load cushioning and solid rear tires for easy steering (see left photo), the truck has a turning radius of 64", a maximum forward speed of 8 mph, and a gradeability with rated load of 25 per cent.

To provide easy access to the motor, the seat lifts up out of the way, and both side panels and the battery swing outward as shown in the right photo. Lint screens slip into place over the radiator to keep lint out, and they are easily removed for cleaning.

Clark Equipment Co., Industrial Truck Div., Battle Creek, Mich.

Do you want more data? Write ◆ or use card on page 173; list N-114

Counters remember unregistered picks, yards, hanks

Pick counters (made by George Ohme & Co., Oldham, England) that feature cast-bronze casings, stamped-steel covers, and rugged gearing are produced with tamper-proof reset mechanisms. Three-shift counters are made with:

(1) One, two, or three rows of reset figures all working independently;

(2) Two rows of figures working in parallel, one row being nonreset to give continuous registration and the other capable of being reset to zero at will;

(3) Three rows of figures, of which two are nonreset, and work independently according to the shift in operation but with the combined output recorded on the third

new plant?
expanding?
remodeling?
LOCKWOOD GREENE
ENGINEERS and ARCHITECTS
have been helping firms like yours
do it successfully for a long, long time.
Offices at: 41 East 42nd St., New York
Montgomery Bldg. Spartanburg, S. C.
316 Stuart St. Boston, Mass.

row which can be reset to zero at will; and

(4) Three rows of figures, of which two work independently according to the shift in operation and can both be reset to zero at will, while the third row registers the combined total of both rows and is nonreset.

The counters do not lose picks that are woven but are not reflected on the dial at the time of resetting to zero. Such picks are recorded on the next reading.

Trumeter Co., 38 West 32 St., New York 1, N. Y.

Do you want more data? Write ◆ or use card on page 173; list N-115

Puts smooth needle point on napper wire

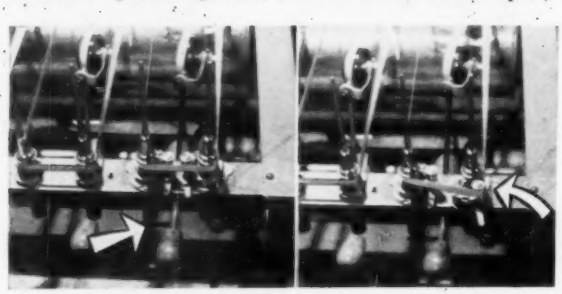
Napper roll wire of every type can be reground to exact specifications on the Blend-matic roll grinder. The machine blends the dimensions of each wire end so that the shape and point offer maximum napping efficiency. Wire life is extended.

An internal grinding wheel, the inside surface of which is not much larger than the roll itself, passes over the wire points at an angle to produce a long, tapered point. With it dull wire points can be quickly resharpened, clothing lasts longer (because the original needle point can be renewed), break-in periods for newly reground rolls are substantially reduced, and nappers reach their peak of performance more rapidly and retain it longer.

David Gessner Co., 41 Fremont St., Worcester 3, Mass.

Do you want more data? Write ◆ or use card on page 173; list N-116

Device stops one spindle, lets other three hold speed



A combination spinning spindle brake and clutch deflects the tape from the whorl of the spindle to be stopped and thus permits the other three spindles to operate without a loss of speed. An idler, mounted for rotation into position by operative pressure on a finger lever, lifts the tape from the whorl of the spindle to be stopped and allows the tape to turn freely.

Wm. Kenyon & Sons, Inc., Perth Amboy, N. J.

Do you want more data? Write ◆ or use card on page 173; list N-117

Calculating caustic costs?

(THE TOP RAYON GRADE, OF COURSE)

...then call Wyandotte first

Wyandotte Caustic Soda is guaranteed to be the best rayon grade available—purer than most reagent grades! This top-quality caustic results from Wyandotte's modern production methods and quality control; rigid control of all raw materials. And when you include Wyandotte's economical shipping methods in your calculations, you have a caustic that just can't be beat!

It's available as a liquid in 50% and 74% concentrations, and in six anhydrous forms.

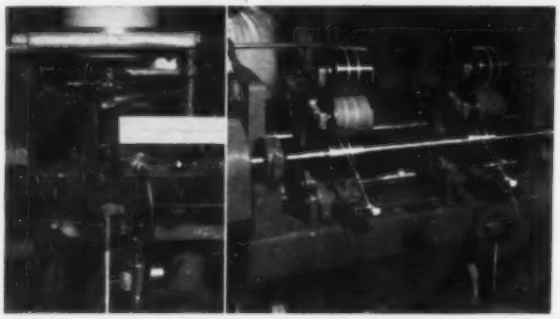
Have you checked which grade *you* should be using . . . lately? A survey of your operations may reveal possible savings that can be made by switching grades of caustic . . . and changing circumstances make it wise to plan periodic surveys of your caustic needs.

Our technical service people will gladly aid you in making the necessary economic studies. Why not get full details, today . . . ask for our newest booklet "74% or 50% . . . Which for You?" Write: *Section TI, Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

Wyandotte CHEMICALS

MICHIGAN ALKALI DIVISION

Twister spindle stops instantly; its feed roll too



Left: Pneumatically actuated spindle brake. Right: Feed roll stop motion assembly.

Now available on all new Collins twisters and as changeovers on all types of tape-driven twisters regardless of make is the Collins "Airestop Spindle" which features instantaneous stopping of itself as well as the individual feed roll assembly whenever an end breaks or run-out occurs.

Advantages to be derived by using this arrangement are: (1) it insures production of a knotless yarn; (2) it prevents drop ply; (3) it prevents roller laps; (4) it reduces waste; (5) it allows increased patrolling assignments; (6) it reduces cost of yarn manufacture.

Instantaneous stopping of the spindle is accomplished by means of compressed air in the range of 40 to 80 pounds (depending on the package size). Each spindle is controlled by either a solenoid or mechanical valve, depending on the type of feed roll arrangement.

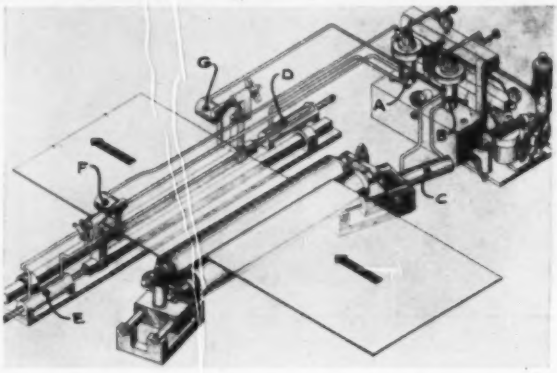
Collins Brothers Machine Co., Inc., 647 Roosevelt Ave., Pawtucket, R. I.

Do you want more data? Write ◂ or use card on page 173; list N-118

Centering system doubles as edge guide

The Fife centering system for web guide control uses sensing heads to track selvages and hydraulic controls to shift the web as needed to maintain web movement "on center." One sensing head actuates motion of the web

A and B, control actuating valves; C, material positioning cylinder; D and E, cylinders of slave hydraulic system; F and G, sensing heads.



Avondale Yarns
Sold through Comer-Avondale Mills, Inc. Headquarters: Sylacauga, Alabama
Sales Offices: Boston, Charlotte, Chattanooga, Chicago, New York, Philadelphia, Reading.
PRODUCERS OF QUALITY COMBED AND
CARDED COTTON KNITTING YARNS
AVONDALE
YARN

supply package; the other head actuates slave hydraulic systems to coordinate motion of the two heads as web width changes. By closing a single valve the system will function as an edge guide only.

Fife Mfg. Co., P. O. Box 9815, Oklahoma City 18, Okla.

Do you want more data? Write ◆ or use card on page 173; list N-119

Griffin size box features new roll arrangement

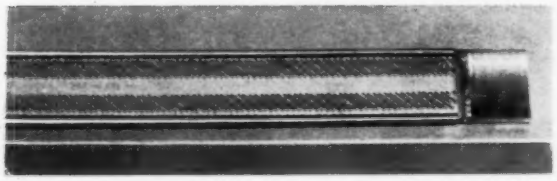
A positively driven immersion roll, squeeze roll pressures automatically variable with slasher speed, size applied to yarn under relaxed condition, and all ends held parallel while passing through the size are advantages offered by the improved Griffin Size Applicator which was recently placed on the market.

The sheet of yarn from the creel passes through the unit in exactly the same formation as it entered the machine. Yarn is carried by squeeze rollers through the size so that there is no stretching of the yarn in the wet state; only tension on yarn is in dry state. Both squeeze roll pressures are adjustable.

Ira L. Griffin & Sons, P. O. Box 1576, Charlotte, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-120

Flat clothing offers less grinding, fewer neps



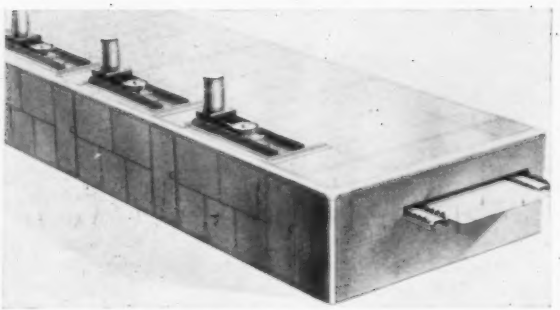
Less grinding and fewer neps are the result when split top flat clothing is used. A strip of foundation along the center of the clothing is left bare of wire.

Tests indicate that the double convex wire with hardened points requires grinding only about once a year.

Ashworth Brothers, Inc., Box 670, Fall River, Mass.

Do you want more data? Write ◆ or use card on page 173; list N-121

Eye-level, high capacity tenter housing



A high-capacity tenter housing, developed in collaboration with Artos Maschinenbau, Hamburg, West Germany, features an air nozzle system which assures uniform drying or curing from selvage to selvage and eliminates over drying. Compact, eye-level styling—the housing is only 5'-6" high—gives full visibility from end to end.

Proctor & Schwartz, Inc., Seventh St. and Tabor Rd., Philadelphia 20, Pa.

Do you want more data? Write ◆ or use card on page 173; list N-122

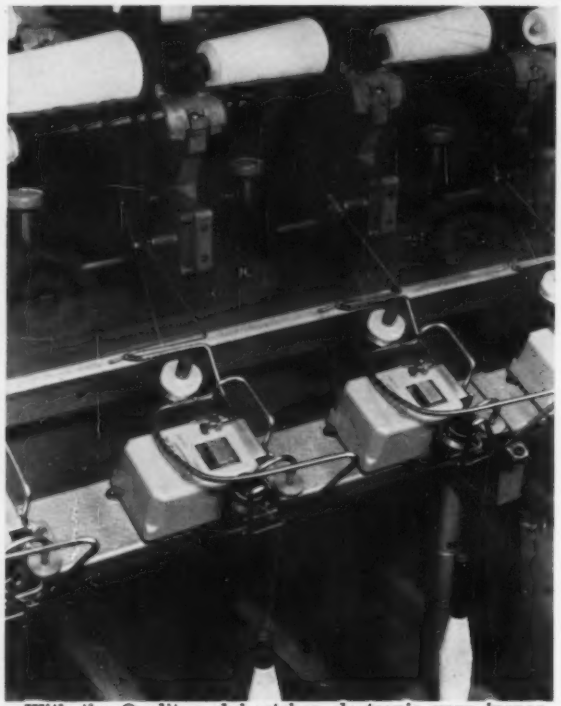
TEXREZ
EXTENDER G

Essential to an improved finish!
Gives desired "Hand" to fabrics!

- builds "hand" on crease-resistant fabrics!
- when reacted with thermo-setting resins . . . outlasts repeated washings!
- economical to use: tremendous body-building properties that cost **so** little!
- cold water soluble . . . quickly forms fluid, stable solutions!
- all films are colorless, transparent!

STEIN SH HALL
285 MADISON AVENUE NEW YORK 17, N. Y.
MUrray Hill 9-0800

Non-chafing slubcatcher saves slubs for study



With the Qualitex slubcatcher electronic yarn inspection is accomplished without contact with the yarn so that there is no roughing and chafing during the deslubbing operation.

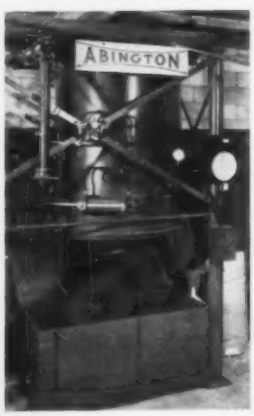
The yarn is led through guides and tensions by way of an inspecting condenser and a cutting mechanism. When an imperfection is detected, the cutting mechanism is activated to sever the strand before the imperfection reaches the cutter. Thus, the imperfection is left positioned between the condenser and the cutter, within view of the operative.

A central control unit is dial-set to regulate the sensitivity of up to 30 slubcatchers.

Textile Electronics, Inc., P. O. Box 10276, Charlotte 1, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-123

Pushbutton card and comber waste handling

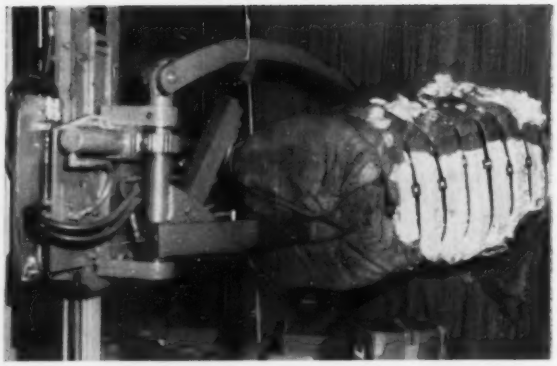


The Remote Controlled Bottom Discharge Receiver eliminates the necessity for manual unloading of the receiver. An operator in the mill has only to push a button to cause the waste house receiver automatically to open, dump waste, and close.

The device is useful for comber noil conveying and unmanned waste houses.

Abington Textile Machinery Works, North Abington, Mass.

Do you want more data? Write ◆ or use card on page 173; list N-124



Space-saving cotton hook fits any fork truck

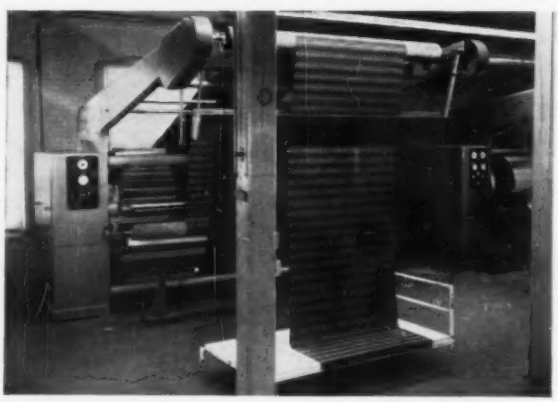
The Perry Hook (made by Long Reach Machine Works of Houston, Texas) can be fitted to existing fork trucks for handling cotton bales of any size, shape, or density. Existing truck masts should be reinforced to accommodate the pressures resulting from the hook's ability to rotate through 180 degrees.

The unit will transport bales either in horizontal or vertical positions, and with it one man can: (1) breakout and store tiered compressed cotton; (2) sample bales while tiered; (3) tighten up tiered bales in warehouse; (4) load or unload box cars or trailers; and (5) breakout bales on head.

Wrenn Brothers, P. O. Box 10186, Charlotte 1, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-125

Nappers can give four-fold production rate



Four Hi-Torc nappers (a 24- and 30-roll double-acting model, a 24-roll single-acting model, a 24-roll knit goods napper) now available represent a napper for every fabric and every finish. A hydraulic pressure system drive, combined with gear-driven worker rolls, permit the nappers to control independently and indicate accurately the cloth speed and tension, and pile and counterpile energy.

Each control knob has its own indicator that sets as easily as a clock, and settings are re-established simply by turning a knob until the desired indication is reached.

The machines are furnished with constant cloth speeds of from 30 to 55 yards per minute, and in working widths of 60", 72", 80", 90", 96", and 108".

David Gessner Co., 41 Fremont St., Worcester 3, Mass.

Do you want more data? Write ◆ or use card on page 173; list N-126

Check sliver, roving, yarn evenness at the machine

With the Portable Uniformity Meter it is possible to observe the effects of changes made in card, drawing, roving, and spinning, etc., as the changes are made.

The unit is wheeled to the machine to be checked, the magnetic-based sensing head mounted to receive the stock being processed (shown here resting on top of a card coiler), and the uniformity is indicated by meter read-out as the test progresses. Unskilled personnel can give "Yes" or "No" answer to changes being made.

Some suggested applications: checking card clothing condition, grinding rolls and drum condition, drawing roll settings, roll weights and sizes, buffing cycles, cleaning and lubricating cycles, etc. Recording accessories can be provided for use in making pattern studies.

Universal Winding Co., Providence 1, R. I.

Do you want more data? Write ◂ or use card on page 173; list M-127

Needle looms produce uniform felts

Looms for needling fabrics of natural, synthetic, and blended fibers are made in several widths—Model 9 in 45″ and 65″ widths; Model 8 in 90″, 105″, 132½″, and 160″.

Although they operate at high speeds—the 160″ loom

OVER 30 YEARS OF "GOOD BREEDING"
HAS PRODUCED MAXIMUM DESIZING
EFFICIENCY AT HIGH TEMPERATURES
IN RAPIDASE®
FOR DESIZING

a product of WALLERSTEIN COMPANY, INC.
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NOW AVAILABLE
the new, most concentrated liquid
RAPIDASE-800
for maximum economy in shipping and storage where a liquid desizer is preferred
also: RAPIDASE 2M
RAPIDASE CONCENTRATED
RAPIDASE M
RAPIDASE
and the extra-convenient powdered product RAPIDASE-Z, in drums or in precision-packed 2-oz. and 8-oz. moisture-proof envelopes.

NEW PRODUCT PARADE

The Laurel Leaf

BUSINESS MAGAZINE EDITION

LAURAVEL SC

A versatile softener for finer finishing of all types of yarns and fabrics.

If you are looking for a softener just a "little better than the rest," you should know about LAURAVEL SC, a nonionic softener recommended for the fine finishing of all types of yarns and fabrics . . . especially cotton goods. It's available as a soft liquid paste that's readily dispersable in hot water. It bestows full-bodied softness to fabrics, resists aging, and will not alter shades nor yellow whites.

Much of LAURAVEL SC's wide popularity results from its high resistance to salts, acids, and alkalies. It is stable in salt, Epsom Salt, and acid-chrome finishing baths, and may — under certain conditions — be used in the presence of 1% to 2% solutions of salt, making it ideal for softening many direct colors where a salt color fixative is used.

LAURAVEL SC is more compatible than many of its anionic counterparts with other finishing agents, such as resins and dextrines. Fabrics finished with it show excellent resistance to scorching. Used as a top softener in resin-treated goods, it is stable to residual products in the goods. It gives a superior lubrication to improve sewing and cutting properties, and adds good napping characteristics to fabrics. It gives a hand far less limp and raggy when used as a replacement for many conventional oils and softeners in compressive shrinking processes.

It's really easy to prepare and apply LAURAVEL SC — just mix with hot water and add to the last rinse. For finishing mixes, it may be added directly to the batch and boiled up with the rest of the ingredients. And, you can apply it with virtually any type of equipment.

Write for a generous free sample and **see for yourself** what excellent results you'll obtain!

Laurel Brand

Laurel SOAP MANUFACTURING CO., INC.
TIOGA, THOMPSON & ALMOND STS., PHILA. 34, PA.

Warehouses:
Paterson, N. J., Chattanooga, Tenn., Charlotte, N. C., Greenville, S. C.

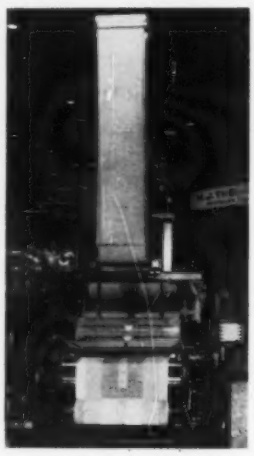
at 600 strokes per minute—the machines are practically free from vibration. The looms also feature needle distribution that eliminates the necessity of critical feed adjustments to avoid undesirable patterns in the finished product. Ridging or furrowing is also avoided.

Easily operated manual controls regulate the amount of needle penetration and the height of the stripper. These may be set while the machine is running, and they are designed for installation on either side of the machine.

James Hunter Machine Co., North Adams, Mass.

Do you want more data? Write ◂ or use card on page 173; list N-128

Auxiliary paper-pattern dobby for name weaving



The Staubli Type Na dobby is especially suited for weaving names, trade marks, small designs, etc., into such fabrics as towels, umbrella cloth, and the like. It controls only the pattern ends (16, 32, 50, or 64 ends), the ground weave being controlled separately.

Harness lift is sufficient for normal loom operation, and the pattern motion accommodates pick finding without interference with take-up roll position.

The paper pattern normally is carried on guide rails and rollers sufficient for 1300 to 1800 picks, with optional equipment sufficient for 2700 picks being available. The dobby may be mounted in the middle of the loom or on the end opposite the dobby used for ground weave control.

Available also is a card or paper cutting machine that permits manual card punching as well as high-speed copying of finished cards.

H. J. Theiler Corp., Whitinsville, Mass.

Do you want more data? Write ◂ or use card on page 173; list N-129

Stethescope for "equipment doctors"

A portable sound detector for maintenance personnel is essentially a physician's stethescope to which are appended twin probes to allow the operator to listen to the inner sounds of spindles, valves, steam traps, compressors, gear boxes, motors, etc.

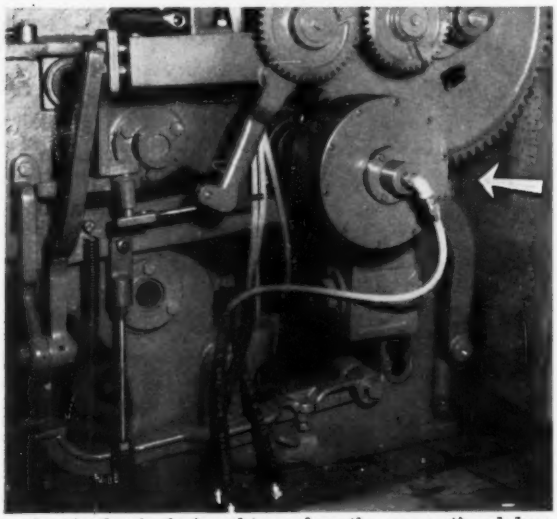
The system amplifies sound to a level permitting,

through the two probes, a comparison of the sounds coming from two sources and directed to different ears. Both detectors, of course, may be used to pick up sound from a single source, or used singly to transmit sound to either ear. The unit is manufactured by Burke & Co., Worton, Md.

Jenkins Metal Shops, Inc., P. O. Box 1160, Gastonia, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-130

Picker air clutch saves gear wear

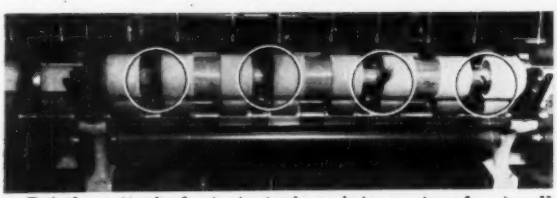


An air clutch, designed to replace the conventional drop lever gear, remains in constant mesh with the calender section of the picker. Air pressure permits quiet and efficient starting and stopping.

Livingston & Haven, Inc., P. O. Box 808, Charleston, S. C.

Do you want more data? Write ◆ or use card on page 173; list N-131

Clearer "whiskers" clean roll necks



Bristles attached at strategic points on top front roll scavenger rolls wipe away lint from the region of roll necks. A kit is offered containing bristles, drill, and glue for the installation.

Dixon Corp., P. O. Drawer 7, Bristol, R. I.

Do you want more data? Write ◆ or use card on page 173; list N-132

Cadmium-plated card flat chains

Flat chains for cotton cards, built under close tolerances and designed for long life, are cadmium plated to prevent rust. They are shipped individually packaged in matched sets.

Ramsey Southeast Corp., 521 Dowd Rd., Charlotte, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-133

Flyers add up to 25% more roving to package

The notched throat of the Maier Prima flyer runs the false roving twist back to the front roll to prevent excessive ends down. Additionally, the design features permit putting 15 to 25 per cent more roving on the package than is possible with conventional flyers.

Some other advantages of the flyer are: (1) a high polish, especially in the throat and leg, prevents "eyebrowing"; (2) drop presser permits the roving to leave the hollow leg and wind around the presser finger at an angle that reduces strain at that point; (3) each flyer is balanced at maximum operating speed within a tolerance of plus or minus three grams; (4) finish withstands the corrosive action of synthetic yarns; and (5) position of slot in the eye of the presser finger makes threading almost automatic.

Watson & Desmond, 220 Fourth St., Charlotte, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-134

Spinning frame features 48-spindle-unit construction

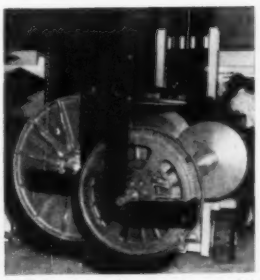
The Roberts Arrow M-1 spinning frame (its predecessors were called Model 2500 and, simply, M-1) is manufactured in standard sections of 48 spindles each, so that a frame length can be varied easily in the mill at any future time either by removing or adding 48-spindle intermediate sections.

Essentially the same frame as the M-1, it is furnished with built-in suction cleaning and offers ball-bearing bottom rolls and Posiwate top roll suspension.

Roberts Co., Sanford, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-135

Lets fork truck handle beams in narrow aisles



An attachment for 3,000-4,000 lb capacity fork trucks permits the truck to lift beams or warps several feet above floor level and set them sideways into storage racks, and the truck does not have to turn in the aisle and face the rack.

The attachment expands laterally to insert the beam inside the rack rails. It carries two beams, one on either side, and will accommodate beams of different lengths and diameters at one time.

Wrenn Brothers, P. O. Box 10186, Charlotte 1, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-136

Converts uptwister to produce stretch yarn

Stretch nylon is produced at a high rate by a false-twist spindle in conjunction with an electronic heating element, a combination adaptable to any conventional uptwister. With the units production of 100-denier stretch nylon can amount to 4½ pounds per spindle per 120 hours. Spindle speed is in excess of 55,000 rpm.

The electronic heating element requires no thermostats nor thermocoupler for the accurate control of temperature, and the design prevents temperature variation.

Valco Machine Co., 109 Thirty-fifth St., Union City, N. J.

Do you want more data? Write ◆ or use card on page 173; list N-137

Write for Free Information on Johnson Textile Machinery Replacement Bearings

The ordering of maintenance material for textile machinery is simplified with this new Johnson folder which illustrates and describes a wide range of bearings for several leading makes of textile equipment.

You can order in confidence for Johnson Bearings are made to the exact specifications of the original equipment. The design of each bearing, its alloy, size-tolerances and oil grooving all are identical with the bearing to be replaced.

For your free copy of this Johnson Textile Bearing Folder JBL-9, write Johnson Bronze Company, 530 S. Mill Street, New Castle, Pa.

Johnson Textile Bearings

Subsidiary: Apex Bronze Foundry Co., Oakland, Cal.

d-2

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New digital Fibrograph cuts human error

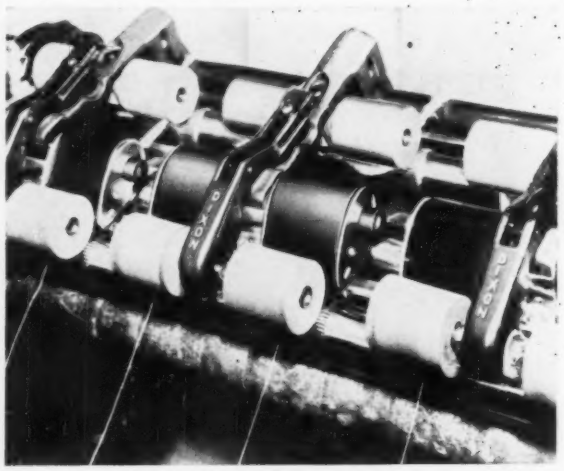
The new digital Fibrograph Model 183 presents fiber length and length distribution of cotton, wool top, and synthetics directly on digital counters, eliminating human error in drawing tangents and interpolating. The machine cuts operating time to less than one-half the time required by prior models and eliminates need of skilled and experienced operators.

This machine reduces downtime in the mill, in that settings for drawing rolls can be taken directly from the length values as presented on the counters. Pushbuttons are provided for computing the following: short fiber index, mean length, and upper half mean length.

Special Instruments Laboratory, Inc., (Spinlab), 312 West Wine Ave., Knoxville, Tenn.

Do you want more data? Write ◂ or use card on page 173; list N-138

Spinning changeover offers 2-step installation



A feature of Dixon Super Saddle Guide changeovers for Duo-Roth or Casablancas type spinning is the fact that they can be installed in two steps to spread the investment—front roll and saddle combination first; later, middle and back rolls and saddles.

Need for lubrication is eliminated and the roll picking

interval can be greatly increased. Ball and socket swivel mounting insures that front roll and front saddle self-align automatically with bottom steel front roll. The Casablancas cradle is fitted with nylon bearing surfaces.

Dixon Corp., Bristol, R. I.

Do you want more data? Write ◆ or use card on page 173; list N-139

Draws "picture" of machine down time

The Efficiency Recorder is designed to assist management to ascertain: (1) when machines are down; (2) when machines are productive; (3) length of idle time; and (4) efficiency of operation. The recorder, easily attached to any machine, draws a single line on an inkless chart to leave a permanent minute-by-minute record of the machine's operation.

When the machine is in operation the pen draws a line upward and at an angle on the chart. When the machine is down (not running) the pen draws a broad horizontal line that is instantly readable. An optional feature is a read-out accessory that reflects both the total minutes the machine ran and the total minutes it was idle.

Gorrell & Gorrell, Westwood, N. J.

Do you want more data? Write ◆ or use card on page 173; list N-140

Delayed looper line attachment

A Delayed Looper Line Attachment removes the necessity of using a move from the main drum of the machine, and of equipping the machine with a stripping attachment to delay the looper line one or more courses. The attachment works from the inside bull gear.

H. E. Crawford Mill Supply Co., High Point, N. C.

Do you want more data? Write ◆ or use card on page 173; list N-148

Tests plastic scratch resistance

The Taber Shear/Scratch Testing Instrument is a precision device for testing the surface quality of organic materials and plastic-coated surfaces to resist digs, scratches, scrapes, engravings, and similar physical damage not classed as normal wear. Fast and accurate test readings are taken directly from a finely balanced scale beam, calibrated in grams, to which are attached either a precision-ground contour shear tool or a conical or cube-point diamond tool. With it, a reliable measurable shear or scratch test can be performed in only a few minutes, even by personnel with minimum scientific experience.

Taber Instrument Corp., 111 Goundry St., North Tonawanda, N. Y.

Do you want more data? Write ◆ or use card on page 173; list N-149

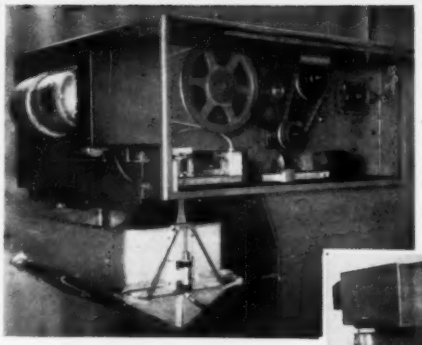
Cylinder brakes reduce ends down

Cylinder brakes for spinning and twisting frames reduce both the amount of off-twist yarns and ends down resulting from frame stoppage. The brakes are made in solenoid-controlled and shipper-rod activated models. By stopping the cylinders so that the rolls and spindles cease rotating at approximately the same time, the brakes prevent slack from occurring between the bobbin and the rolls—the lack of traveler drag introduced by frame "coasting" often permits the slackened yarn to snarl and corkscrew. The brakes are custom built for each type of spinning or twisting frame.

Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

Do you want more data? Write ◆ or use card on page 173; list N-141

OPENING—CLEANING and BLENDING SYSTEMS by FIBER CONTROLS



Weighing Pan and Dumping Mechanism of Synchromatic Feeder

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is Designed to Prevent False Blends under all conditions. With this Super Sensitive Weighing Pan and Air Cylinder dumping mechanism our New tubular aluminum weighing mechanism enables our weight variation to be held below 1% average. Total variation (plus or minus) will not exceed 1%. This variation can be held regardless of the feed, whether heavy or light. Will blend any combination of fibers automatically. Economical to operate and maintain. Labor Saving. Increases Output. Improves Product and Reduces Waste. Has proven its value to Management, regardless of Mill size.

FIBER CONTROLS SCREENLESS CONDENSER

This NEW condenser, Model FC-83, made for Heavy Duty and High Production, has proven itself in efficiency and capacity production. Can be mounted vertically or horizontally with equally good results. Will handle up to 2000 lbs. of fiber per hour through ducts approximately 200 ft. in distance. Will discharge fiber without - Tumbling - Rolling or Pilling. Self-cleaning.

Inquire about more complete details of this equipment. Call or write:

FIBER CONTROLS CORPORATION

BOX 1358 GASTONIA, NORTH CAROLINA

NEW PRODUCT PARADE

Quick-change sweater knitter control

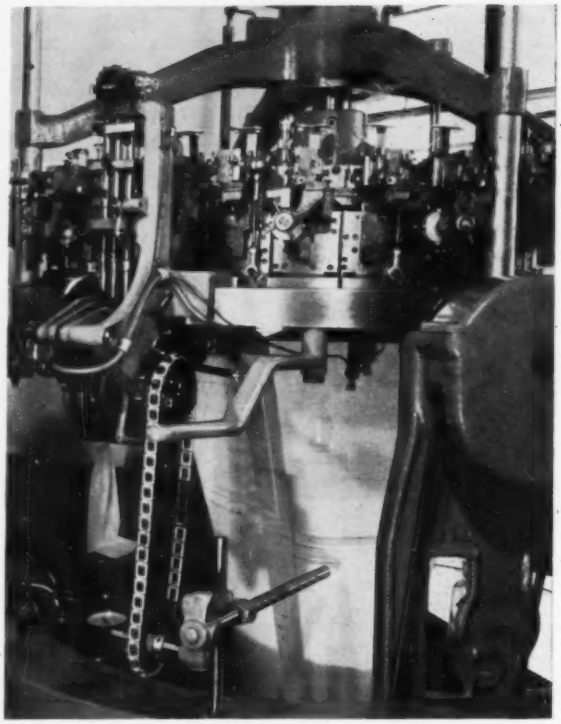
A control mechanism has been designed for the Scott & Williams MFRC sweater machine to overcome the disadvantages inherent in a chain control. Among its advantages are: (1) quick changes for various lengths can be made; (2) improved accuracy of control rod positioning; (3) reduced wear on camming surfaces; (4) quick changes as to type of sweater blank wanted; (5) cycle fixed by cams, not dependent on placement of chains; and (6) the control may be installed on existing chains having the original chain control.

The chain links are so made that they will not come apart while in normal operating position but may be easily separated by hand. Links may be swiftly inserted and removed as desired.

The drum contains two complete sets of cams, and each set controls a full knitting cycle consisting of the interlock body, 1 x 1 rib bottom, press-off, antiravel welt courses, and nylon draw thread. Two body or sleeve blanks are knit on one revolution.

Three rows of cams are used to take the place of the original three chains. Row No. 1 contains the swivel cams on the short needle feeds and also the nylon draw thread. Row No. 2 operates the yarn changers and the long needle swivel cams. Row No. 3 controls the stitch slackening mechanisms.

The cams are made from 5/16" steel stock and are approximately four times thicker than the single links used in the original chains. The added thickness imparts a smoother and more accurate motion to the control rods



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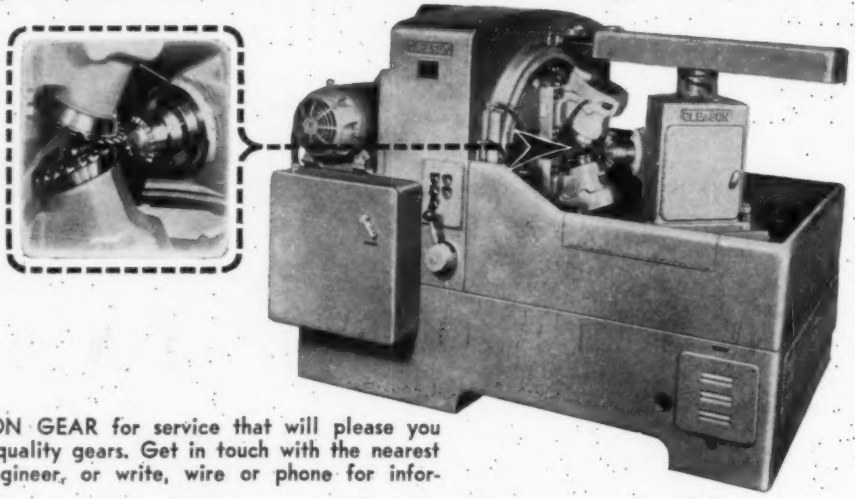

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SAVANNAH, GA. — HARVEY D. BLACK, TEL. ADams 4-9479, 2120 E. 40th ST.

compared to the action obtained from the thin links on the chain control. The wider face on the cams results in a greater wearing surface so as to give a longer service period compared to chains.

The one simple chain that controls the movement of the drum consists of two types of links—a plain, low link that holds the actuating drum pawl in an idle position and a high link having a lug on it that places the drum pawl in an operating position. The high links are not changed but the low links may be changed to alter the length of either or both the interlock body and 1 x 1 rib bottom.

The machine cycle requires that the standard cam set-up will produce 30 courses minimum of 1 x 1 rib to an infinite number maximum. The interlock body on the standard setup, will have 54 courses minimum to an infinite number maximum. By replacing four cams on the standard setup a 1 x 1 rib bottom consisting of 15 courses may be knit but no increase can be obtained. The interlock body will have a minimum of 84 courses to an infinite number maximum. A third change may be made by replacing eight drum cams in the standard set-up. This makes possible the knitting of 1 x 1 rib fabric with selvage and nylon draw thread without the interlock body. A minimum of 84 courses of rib can be knit to an infinite number maximum.

Scott & Williams, Inc., the Brinton Fabrics Machine Div., Laconia, N. H.

Do you want more data? Write ◂ or use card on page 173; list N-142

Compares colors of cotton samples

The Colorgard is an automatic self-containing instrument for measuring the color of cotton in relation to the colors of the universal standards for grading of American Upland Cotton issued by the USDA. The instrument is designed for operating by and as an aid to cotton classers in their classing rooms.

In the grading of raw cotton the instrument automatically shows values of reflectance and yellowness on a two-dimensional chart when the operator places

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CELLUSET #2 — Non-chlorine retentive liquid resin. Gives shrinkage control on both woven and knit cotton fabrics.

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a sample of cotton over the sample window and depresses a button switch. A chart of the color of the cotton grade standards appears on a glass panel on which the reflectance Rd and yellowness (+ b) scales are indicated. Consequently a classer can check against a particular position within each grade and can pass or fail a sample by comparison of this point with a standard position indicated on the instrument's chart. The instrument can be modified to work where a limited range of colors must be examined.

Gardner Laboratory, Inc., 5521 Landy Lane, Bethesda 14, Md.

Do you want more data? Write ◆ or use card on page 173; list M-143

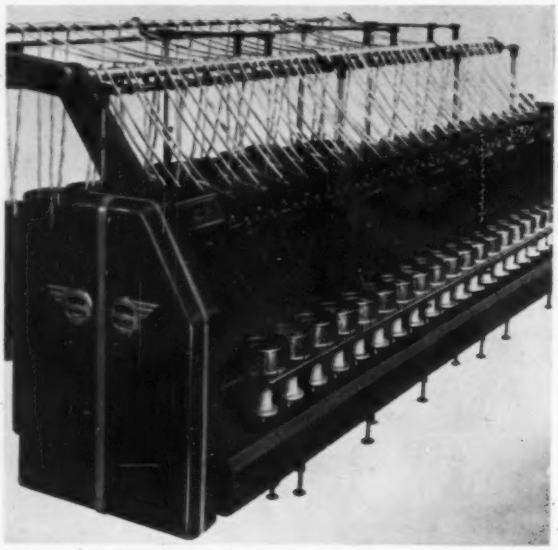
Ten per cent more sliver, same nep count

The Swiss-made C1 card can be called upon to produce 10 per cent more stock without increasing the nep count, or to reduce the nep count 10 to 40 per cent without an increase in production. Mounted on a sturdy cast-iron frame with lateral cylindrical transverses, it has antifriction bearings located at 72 places on the machine. The design permits flats to be set at five points, and a flat may be removed from the card while it is in either working or returning position. Waste between flats and chain will not jam them—chain is positioned on flats to offset tendency of flats to sag toward cylinder. A single cylinder-type grinder, with built-in motor that can be plugged into the card at any place, sharpens the card in one-tenth the time normally needed. The card can be equipped with any popular-size cans, and as optional equipment can be fitted with a double swing coiler that automatically swings to a second can when the first one is full.

American Rieter Co., Inc., P. O. Box 777, Passaic Ave. & Clinton Rd., West Caldwell, N. J.

Do you want more data? Write ◆ or use card on page 173; list M-144

Sliver spinning frame for carpet yarns



Designed especially for the production of carpet yarns, the M.C.S.1., a ring spinning frame made by Platt Bros. (Sales) Ltd., Oldham, Lancashire, England, incorporates a double row of spindles. Spindle speeds range from 2500 to 3000 rpm, according to the type of material being spun, while the calculated production ranges from approximately 0.28 pound per spindle per hour on 3s cotton count to 2.14 pounds per spindle per hour on 0.9s count. The back of the frame is designed to accommodate the sliver cans up to 18" diameter with a capacity up to 36 pounds of sliver. A gantry-type creel is used, fitted with two overhead assisting rollers.

The 10" lift, 6½" diameter double flanged bobbin has

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a minimum capacity of four pounds of yarn. This large package is particularly well suited for the production of tufted carpet yarns in which piecings are responsible for excessive machine stoppages. The machine is equipped with a drafting system suitable for fibers 2⅜" to 8" in length and has a drafting range between 7½ and 18.

The heavy-duty, roller-bearing spindles are driven by a single endless flat belt enclosed within the spindle rail. The front row of spindles is fitted with open-ended canisters acting as separators, equipped with small doors to aid access to the traveler, while the back row of spindles is equipped with the orthodox plate-type separators.

The machine is driven from the main motor through a counter shaft on which is an electro-magnetic clutch. A resistance coil is wired in series with the clutch and can be adjusted to alter the starting characteristics of the machine as required. Other features are a quick-acting braking system, push-button starting, inching, and stopping, single-shot pressure lubrication and sealed ball bearings on the bottom drafting rollers which need cleaning and regreasing only every 2500 hours.

Atkinson, Haserick & Co., Inc., P. O. Box 509, Framingham, Mass.

Do you want more data? Write ◆ or use card on page 173; list N-145

Floor scrubber is battery operated

An all-battery unit complete with charger, a self-propelled floor maintainer, operates entirely free of electric cable or gasoline motors. Only 24" x 51½" long, it (designated the Model PS-20BP) is designed for small, medium, and large floor area maintenance, being capable of cleaning and polishing 5 to 15 times as fast as ordinary hand procedure. By simple push-button and lever control it propels itself, meters solution to the brush, scrubs and dries—all in a single pass. It has a forward speed of 155 fpm and is equipped with a 20" diameter brush. The batteries operate the maintainer for approximately six hours of continuous running.

Capable of covering up to 15,480 sq ft per hour, the machine has interchangeable brushes and attachments for polishing and dry cleaning floors, is driven by a ¾-hp, 24-volt ball-bearing motor, and has a vacuum pick-up motor which provides 60 inches of water lift with closed orifice.

Clarke Sanding Machine Co., Dept. BP, 30 East Clay Ave., Muskegon, Mich.

Do you want more data? Write ◆ or use card on page 173; list N-150

Completely integrated data processing system

A completely integrated, general-purpose data processing system, called the Datatron 205, is designed to cope with the full range of electronic computing problems. In the New York City offices of one textile manufacturer the system is being used for automatically controlling inventories, available stocks, and orders by delivery periods.

Offering the widest range of input-output media in its field, this system is capable of making 30,000 additions or subtractions, 7,200 multiplications, and 5,100 divisions per minute.

Being a truly integrated system, it operates under the control of its central computer. It accepts daily, variable information directly from punched cards, punched paper tape, magnetic tape or keyboard—employing input units singly or in multiple. It selects from magnetic tape the

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See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

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reference records necessary to process daily information, brings these records up to date, and returns them to magnetic tape. It transmits end-results directly into punched cards, punched paper tape or printed documents.

The internally programmed decimal digital computer's large vocabulary of automatic commands, high magnetic drum memory capacity (40,800 digits), and high-speed series-parallel operation permit accurate processing of great quantities of data.

The combination of punched card (Cardatron) and magnetic tape (Datafile) input-output subsystems with the central computer results in a powerful commercial system. For scientific problems, the automatic floating point, magnetic tape, and punched paper tape input-output provide great versatility.

The Datafile is a bin containing 50 lengths of magnetic tape, each suspended over guide rods. About the size of a household deep-freeze, the Datafile can store 20-million digits of information when used as a part of the computing system. The magnetic tapes, which actually substitute for conventional filing cabinets, move at the rate of 60 inches per second—enabling the computer to seek out and obtain desired information from the magnetic tape at very high speeds.

Cardatron is an exceptionally fast multiple electronic system for the processing of punched cards. A complete Cardatron system, used in conjunction with the Datatron 205 computing system, consists of a control unit, one to seven input units, and one to seven output units. Input to the Cardatron is in the form of 80-column punched cards which may contain numeric, alphabetic or alphanumeric data. Conversion to the computer's binary code is automatic.

ElectroData Division, Burroughs Corp., 460 Sierra Madre Villa, Pasadena, Calif.

Do you want more data? Write ◂ or use card on page 173; list N-146

Interlock machine ups production

The Philip Super Multi-feed Model interlock sweater machine is a 52-feed, 33-inch diameter knitter being manufactured by the Supreme Knitting Machine Co., Ozone Park, L. I. Its production of sweater strips is approximately 50 per cent greater than that of the 32-feed, 33-inch knitter of the same manufacturer—on a continuous production basis, using Textralized yarn, the unit will produce 50 sweater strips per hour. Versatile enough to meet standards for Ban-Lon labeled sweaters, as well as other textured filament nylon yarn garments, the machine is also capable of producing looser stitch count cloth of Orlon and other spun synthetic and natural yarn.

Closely resembling its predecessor, the 32-feed model, the new knitter differs from it only in its redesigned camming system that reduces the width of the individual cam sections in the cylinder and dial from three to two inches. In the camming arrangement there is a considerably shorter nonknitting channel in both cylinder and dial which results in a substantial reduction in the length of time the long and short knitting needles remain inoperative during the knitting cycle.

No changes have been made in needle gauge or the rate at which the needles traverse the cam raceways. Yarn carriers and other basic knitting elements of the machine also remain unchanged.

Morris Kaplan Co., Knitwear Machinery Corp., 932 Madison St., Brooklyn 21, N. Y.

Do you want more data? Write ◂ or use card on page 173; list N-147

Mirror mirror on the wall... which colors are the best of all?

AMANTHRENE® Vat Colors

No need for reflection . . . new AMANTHRENE Vat Colors provide the answer — because these highly concentrated colors enable you to obtain rich, warm hues that are exceptionally fast to washing and to light. Perfect for cottons and rayons — easy-to-use AMANTHRENES are available in a full range of colors. For complete information, write or call your nearest Koppers representative. Our laboratory facilities and technicians are always available to help you whenever the need arises.

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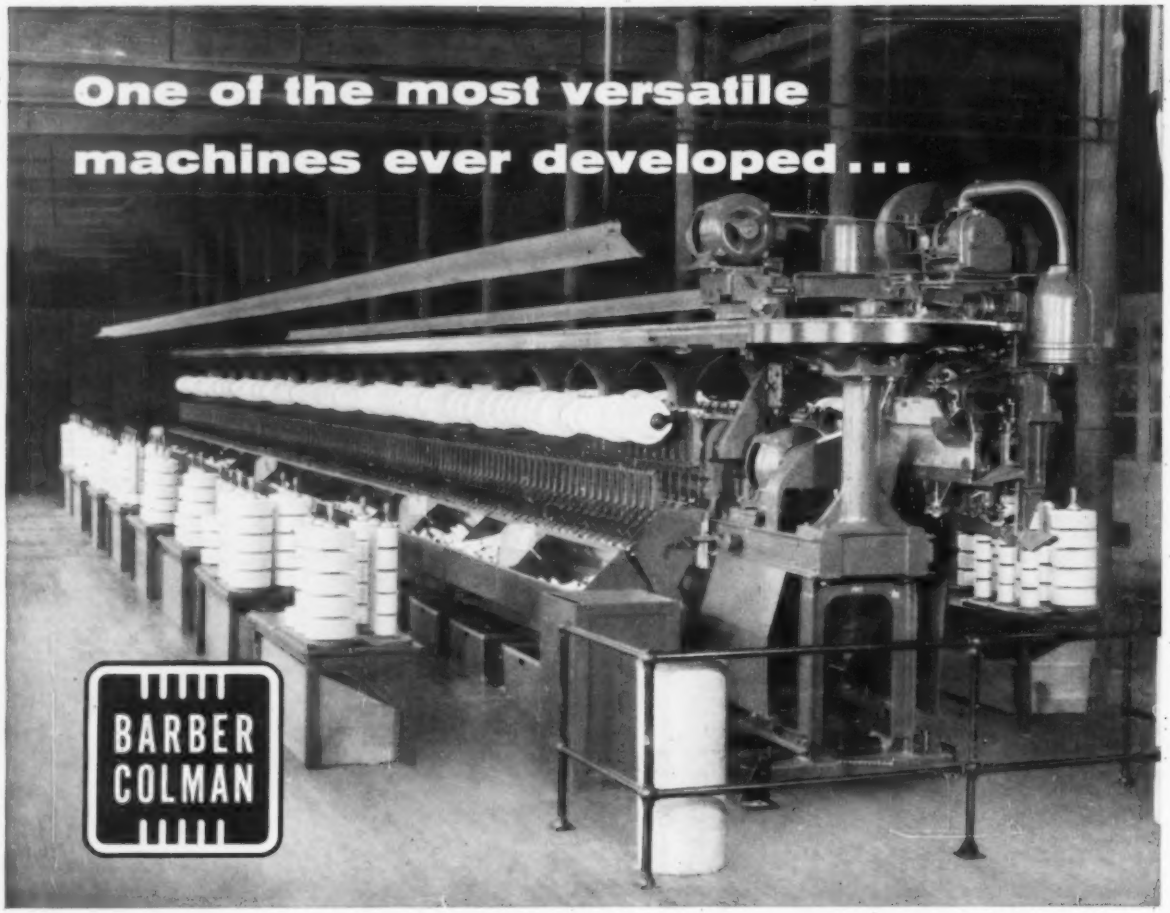

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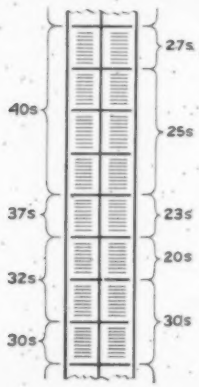

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12-7 INDUSTRIAL FABRICS. Booklet describes custom finished industrial fabrics for a wide range of commercial uses. Fulton Cotton Mills, P. O. Box 1726, Atlanta, Ga.

12-8 SOAP-DETERGENT BUYING. Soap-Detergent Buying Guide lists more than 40 products for use in textile mills. Associated Products Dept., Colgate-Palmolive Co., 300 Park Ave., New York, 22, N. Y.

12-9 TEXTILE MOTORS, 1-5HP. Bulletin describes Tri-Clad '55' motors for weaving, roving, spinning, warping, twisting and carding. General Electric Co., Schenectady 5, N. Y.

12-10 ANTISTATIC CONING OIL. Technical bulletin describes Nopcone LV, an antistatic coning oil which is effective on all synthetic yarns. Textile Chemicals Div., Nopco Chemical Co., 60 Park Place, Newark, N. J.

12-11 CHEMICAL PROCESS EQUIPMENT. Bulletin describes blenders, vacuum tumble dryers, packaged resin-distillation pilot plants and process heat exchangers. Patterson Kelley Co., Inc., East Stroudsburg, Pa.

12-12 PACKAGE DYEING. Publication gives useful information on the application of vat dyes in package dyeing. American Cyanimid Co., Bound Brook, New Jersey.

12-13 BOBBIN, SPINDLE GEARS. Booklet lists available gears commonly needed by textile mills. E. E. Smith & Son, P. O. Box 164, Gastonia, N. C.

12-14 WATER HEATERS. Bulletin includes descriptions, model numbers, capacities, pressures, ratings, dimensions, weights and prices of heaters, boosters and converters. The Sims Company, Inc., Erie, Pa.

12-15 PALLETAINERS. Catalog contains many in-use photographs of various Palletainer, steel mesh containers for materials handling. Union Steel Products Co., Albion, Mich.

12-16 DRY FLUID DRIVES. Bulletin gives complete product photographs and engineering drawings of expanded line of Flexidyne Dry Fluid Drives and Couplings. Bulletin A-640B, Dodge Mfg. Corp., Mishawaka, Ind.

12-17 LONGER V-BELT LIFE. Manual tells how to select and install V-belts, how to detect trouble, diagnose failures and correct drive troubles. B. F. Goodrich Company, Akron, Ohio.

12-18 CHEMICAL PROCESS FILTERS. Photographs and cut-away drawings show operation and advantages of filters for chemical processing. R. P. Adams Co., Inc., Buffalo, 17, N. Y.

12-19 STAINLESS STEEL EXCHANGERS. Illustrated bulletin describes Ross Type SSCF Stainless Steel exchangers for production and pilot plant applications in chemical processing. Ross Heat Exchanger Div., Buffalo 5, New York.

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R-3 Card Grinding Information — Care and operation of cards. B. S. Roy & Son Co., Worcester, Mass.

R-4 Card Clothing — Describes Strip-O-Matic Card Clothing. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia, Pa.

R-5 Versa-Matic Drawing Frame — Describes drafting elements, quality of sliver, roving and yarn possible. Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

R-6 Sargent Opener—Describes opener with rotary ovener and stripper. C. G. Sargent's Sons Corp., Graniteville, Mass.

R-7 Ball Bearing Comb Boxes — Describes working principle, shows cut-away Views, Southern States Equipment Corp., Hampton, Georgia.

R-8 Feathertouch Drafting — Describes "highest production per frame at lowest cost." Ideal Industries, Inc., Bessemer City, N. C.

R-9 Automatic Weighing Feeders — Tandem Weighing Feeder produces webs, mats and felts of continuing accuracy. W. D. Dodenhoff Co., Inc., Box 178, Greenville, S. C.

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R-15 Advantages of Aldrich Pickers —Good technical text, comprehensive pictures. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

R-16 Universal Card Coiler—Gives 12 reasons why it's "the best," includes dimensions. McDonough Power Equipment, Inc., McDonough, Ga.

R-17 New Condenser Tape — Describes Supr-O-Tape an impregnated fabric condenser tape. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia 34, Pa.

R-18 Coilers and Conversions — Describes new complete coilers and conversions for cards. Southern States Equipment Corp., Hampton, Ga.

R-19 84" Woolen Card — Includes picture, floor plan, description, and technical details. Davis & Furber Machine Co., North Andover, Mass.

R-20 SRRL Opener—Cleaner—Information on new SRRL development for opening and cleaning cotton being manufactured for sale to mills by Davidson-Kennedy Co., 1090 Jefferson St., N. W., Atlanta, Ga.

SPINNING—TWISTING—WINDING—SPOOLING—WARPING—THROWING

R-101 Spinning News — Up-to-the minute news on spinning equipment. Roberts Co., Sanford, N. C.

R-103 Products For Spinning and Weaving—Complete line, applications, advantages shown. Dayton Rubber Co., Textile Div., Dayton, Ohio.

R-104 New Bobbin Manual — Only complete, authoritative bobbin guide in the industry. Write direct to Dept. DD, Lestershire Spool Division, National Vulcanized Fibre Co., Wilmington 99, Delaware.

R-105 Spindle Oil — "Gulfspin" insures against excessive wear and eliminates spindle wobble. Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.

R-106 ANTI-STATIC AGENT. Data sheet lists basic characteristics of liquid anti-static agent which eliminates processing difficulties with fibers due to static electricity. E. F. Houghton, 303 West Lehigh Ave., Philadelphia 33, Pa.

R-108 High Speed Automatic Quiller —Lists advantages and dimensions of "Autocopser." Terrell Machine Co., Inc., P. O. Box 928, Charlotte, N. C.

R-110 Stop Frame On Roving Failure—Adamstop instantly detects roving failures, stops frame. Adams, Inc., 209 East Stone Ave., Greenville, S. C.

R-111 Automatic Cop Winder—Tells how high production with less labor is possible. F. A. Lazenby Co. 3106 Elm Ave., Baltimore 11, Md.

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R-113 Sectional Warper — Describes full width and sectional warpers for knitting, weaving. Robert Reiner, Inc., Weehawken, New Jersey.

R-114 Conical Rings and Flyers — Complete details and specifications. Herr Manufacturing Co., Inc., 318 Franklin St., Buffalo 2, New York.

R-115 Precise Winding Machine — For winding pineapple or straight cones and tubes of synthetics. Foster Machine Co., Westfield, Mass.

R-116 Automatic Cleaning Equipment—Working details and advantages of the Tri-Rail Cleaner. American Monorail Co., 13107 Athens Ave., Cleveland 7, Ohio.

R-117 Aluminum Section Beams — Lists advantages, includes prices and delivery schedules. Hayes Industries, Inc., Jackson, Mich.

R-118 Lubricants For Textiles — Samples of Ben Boy Bearing, Spindle, Twister Lubricants and Non-Melting Oils. Georgia-Carolina Oil Co., Box 101, Macon, Ga.

R-119 Custom Made Thread Guides—Includes composition, properties, specifications of all designs. American Lava Corporation Chattanooga 5, Tenn.

R-120 Spinning Frame Conversions—Big-package, new-frame results at half the cost. Meadows Mfg. Co., Station A., Atlanta, Ga.

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R-126 Gear Bulletins — Cover products and gears for the complete textile mill. Precision Gear & Machine Co., 2001 N. Tryon St., Charlotte 2, N. C.

R-128 Suction Cleaning System—Details on new Collector Unit Model C-4. Pneumafil Corp., Charlotte 8, N. C.

R-129 Facts About Your Flyers and Spindles—Advantages of smooth flyer and spindle operation. Ideal Machine Shops Bessemer City, N. C.

R-132 Traveling Cleaners—Describes improved frame and room cleaners. Parks-Cramer Co., Fitchburg, Mass.

R-133 Lapless Endless Spinner—Full information available. Ton Tex Corporation, 31 Columbus Ave., Englewood, N. J.

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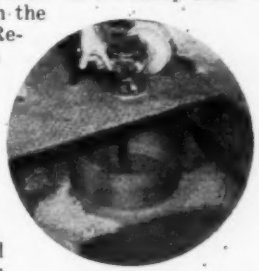

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R-141 Handy Spinning Reference — Shows traveler speeds, sizes of ring flanges. Victor Ring Traveler Co., Providence, R. I. and Gastonia, N. C.

R-142 Unirail Uptwister — Higher yarn quality and better packages at faster speeds. Universal Winding Co., P. O. Box 1605, Providence, R. I.

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R-147 Short Cut To Staple Fiber Spinning—Ten steps in operation of the Tow Stapler. Turbo Machine Co., Lansdale, Pa.

R-148 Weaver's Knotter — Instructions as to use, description. A. B. Carter, Inc., Gastonia, N. C.

R-149 Textile Roll Coverings — Describes complete line as well as other mill supplies. Armstrong Cork Co., Industrial Div., Lancaster, Pa.

R-150 Lint-Free Motor — Describes motor for constant speed a-c driven pickers, roving frames, spinning and twisting frames, etc. Westinghouse Electric Corp., P. O. Box 2278, Pittsburgh 30, Pa.

R-151 Tape For Driving Spindles — Describes banding for spindle drives on twisting, roving and spinning. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia 34, Pa.

R-152 Giant Aluminum Cotton Beams —Describes 38 x 54" section beams for cotton. Hayes Industries, Inc., Jackson, Mich.

R-153 Woolen Spinning Frame — Colored picture, complete details Davis & Furber Machine Co., North Andover, Mass.

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R-213 Saco-Lowell Positrol Slasher—Includes advantages, photographs, cutaway drawings. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

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R-217 Butt-Tacking Sewing Machine —Describes operation, installation of single thread butt-tacking sewing machine. The Merrow Machine Co., 28 Laurel St., Hartford, Conn.

R-218 Loom Reed Booklet — Describes in detail a variety of reeds. Steel Heddle Mfg. Co., 2100 West Allegheny Ave., Philadelphia 32, Pa.

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R-227 Formulas For Slashing Arnel —Includes also information on warping, weaving and quilling. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte 1, N. C.

R-228 The Random Web Process — Describes the Rando-Webber and Rando-Feeder. Bulletin 105. Curlator Corp., Textile Div., 501 W. Commercial St., Rochester, N. Y.

R-230 ECLIPSE STARCHES FOR TEXTILES. Data sheet describes use of thin-boiling starches in the textile industry, with particular emphasis on warp sizing. Physical and chemical data included. A. E. Staley Mfg. Co., Decatur, Ill.

R-232 Hydraulic Slasher Drives — Bulletin 5571 describes economical approach to improved slasher operation. Vickers, Inc., 1036 Peachtree St., Atlanta, Ga.

R-233 Textile Accessories — Gives specifications of Gates textile accessories in handy pocket booklet. The Gates Rubber Co., 1001 Broadway, Denver 17, Colorado.

R-234 Cocker Slashers — Complete specifications and advantages, including allied equipment. Cocker Machine & Foundry Co., Gastonia, N. C.

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2. Another method is to re-install the arbors so that the cones will be horizontal rather than vertical. The relaxed yarn will then run freely from the package without sloughing. Post tension devices will help control uniform yarn delivery.

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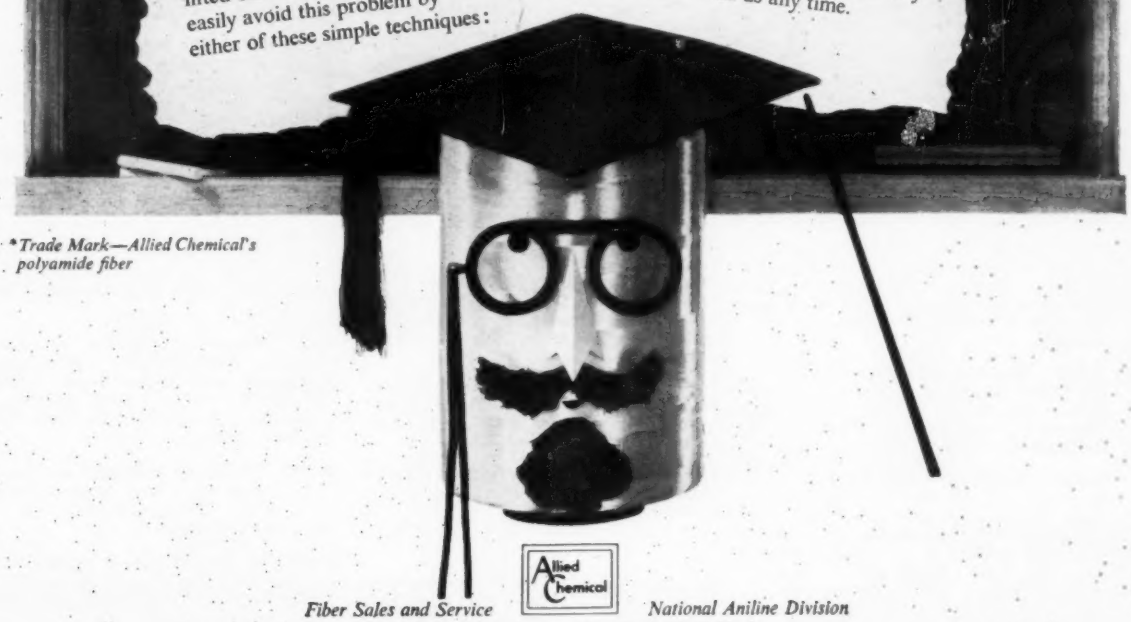

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R-241 Textile Machinery Parts Catalog — Describes complete line of Dayco and Thorobred textile parts. Dayton Rubber Co., Dayton, Ohio.

R-242 Instruments For Accuracy. — Systems for sizing and slashing. Bulletin 98229, Taylor Instrument Co., Rochester, N. Y.

R-243 Counting Devices — Describes complete line of of counters for every application. Trumeter Company, 38 W. 32nd St., New York 1, New York.

R-244 Squirrel-Cage Loom Motor — Describes totally enclosed, non-ventilated, constant-speed motors. Westinghouse Electric Co., P. O. Box 2278, Pittsburgh 30, Pa.

R-245 Static Bars — Humorously illustrates how static can be overcome. The Simco Co., 920 Walnut St., Lansdale, Pa.

R-246 Care Of Draper Shuttles — Describes how longer, troublefree service may be obtained. Draper Corporation, Hopedale, Mass.

R-247 Clutch Brake Motor For Draper Looms — Describes compact power package for driving Draper looms. Westinghouse Electric Corp., P. O. Box 2278, Pittsburgh 30, Pa.

R-250 Bulk Handling of Starch—Bulletin surveys advantages and disadvantages of a bulk system for starch. It describes the types of equipment available for each component and gives estimates of costs. A. E. Staley Mfg. Co., Box 151, Decatur, Ill.

R-251 Small Pilot Slasher — Information on new all-electric Callaway Slasher. Ideal for mills which must prepare a lot of samples. West Point Foundry & Machine Co., West Point, Georgia.

R-252 Weaving Machines — Textile job report No. 20 on Warner & Swasey Sulzer weaving machines at Yale Woolen Mills. Warner & Swasey, 5701 Carnegie Ave., Cleveland 3, Ohio.

R-253 One-Piece Sizing Agent — Houghto-Size CW provides low kettle cost, results in free-running warp of high breaking strength, increasing weaving efficiency. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

R-254 Lubricant for Synthetics — Booklet illustrates Fibregard, a colloidal lubricant that adheres uniformly and continuously to the surfaces of man-made fibers. Harry Miller Corp., 4th and Bristol Sts., Philadelphia 40, Pa.

KNITTING

R-301 Singlehead Full-Fashioned Machine — Literature on request from the Wildman Jacquard Mfg. Co., Full Fashioned Div., Norristown, Pa.

R-302 Forged Head Aluminum Beams — Gives specifications on new high yardage beams. Milton Machine Works, Inc., Milton, Pa.

R-303 Raschel Knitter — Describes new Raschel-type knitting machine. Kidde Manufacturing Co., Inc., 35 Farrand St., Bloomfield, N. J.

R-304 Vibralon For Hosiery—Greater snag resistance, dullness, warmth and absorbency. W. F. Fancourt Co., 519 S. Delaware Ave., Philadelphia 47, Pa.

R-306 Booklets On Fidelity Machines — Details on "400", Multi-Design Ribber, Skein Reelers. Fidelity Machine Co., 3908-18 Frankford Ave., Philadelphia 24, Pa.

R-307 Needle Oil Does Not Stain — Details on "Gulftex 39" developed for knitting mills. Gulf Oil Corp., P. O. Box 1106, Pittsburgh 30, Pa.

DYEING—BLEACHING—FINISHING—PRINTING

R-401 Solvent Detergents — Capabilities and advantages noted. Oakite Products, Inc., 126C Rector St., New York, N. Y.

R-402 Tubes For Package Dyeing — Describes Dytex tubes for one-time use. Sonoco Products Co., Hartsville, S. C.

R-403 Finishing Machinery — Text and photographs of complete line of machinery. Marshall and Williams Corp., 46 Baker St., Providence, R. I.

R-404 Water Analysis — Includes tables, conversion factors, indicators, standard solutions. Solvay Process Div., Allied Chemical & Dye Corp., 61 Broadway, New York 6, N. Y.

R-406 Urea, Formaldehyde.—Literature on urea, formaldehyde or U.F. concentrate-85. Dept. CUFI-29-1, Nitrogen Div., Allied Chemical and Dye Corp., 40 Rector St., New York 6, New York.

R-407 Acid Mordant Blue B—Details on Acid Alizarine Blue B for bright navy shades. Zinsser & Co., Inc., Hastings on Hudson 6, New York.

R-408 Hydrogen Peroxide — Covers properties, uses and handling. Solvay Process Div., Allied Chemical & Dye Corp., 61 Broadway, New York 6, N. Y.

R-412 Cationic Surface Active Agent — Describes Uversoft "D." Harshaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

R-413 Chemicals, Dyes And Intermediates — Complete file of bulletins available. Metro-Atlantic, Inc., Centredale, R. I.

R-414 Wetting Agent — Describes highly concentrated detergent and wetting agent. Rohm & Haas Co., Washington Square, Philadelphia, Pa.

R-415 Peroxide Bleaching System — Illustrates and describes this continuous system. E. I. du Pont de Nemours & Co., Electrochemical Dept. T.I-2, Wilmington, Del.

R-416 Surface Tension Depressant — Tells how product can be used for wetting, dye leveling or as a penetrant. Hart Products Corp., 1440 Broadway, New York, N. Y.

R-417 Textile Chemicals — Describes leading products for wet processers. Royce Chemical Co., Carlton Hill, N. J.

R-418 Industrial Water Treatment — Discusses fundamentals of industrial water treatment. Rohm & Haas Co., Resinous Products Div., Washington Square, Philadelphia 5, Pa.

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R-420 Brine For Textile Industry — Describes Lixate Process for making brine. International Salt Co., Inc., Scranton, Pa.

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R-422 Catalyst AC-6 — Tells how curing efficiency may be stepped up as much as 25%. Monsanto Chemical Co., Plastic Division, Dept. T1-3, Springfield 2, Ohio.

R-423 Soda Ash Bulletin — Contains useful data covering this subject. Solvay Sales Division Allied Chemical & Dye Corp., 40 Rector St., New York 6, New York.

R-424 Water Repellent Finish — Describes Aquarol water repellent finish. Arkansas Co., Inc., Newark, N. J.

R-426 Industrial Oil — Catalogs on Industrial Oil and Fatty Acid products. Swift & Company, Industrial Oil Dept., 1800 165th St., Hammond, Indiana.

R-428 Chemical Catalog — Lists products with chemical composition, properties and applications. Antara Chemicals Div., General Aniline & Film Corp., 435 Hudson St., New York 14, New York.

R-429 Chemical Bulletins — Issued each month as a help to wet processers. WICA Chemicals, Inc., P. O. Box 506, Charlotte, N. C.

R-430 Hydraulic Power Units — Describes unit for operating hydraulic textile machines. B. F. Perkins & Son, Inc., Holyoke, Mass.

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R-433 Safe Handling Of Hydrogen Peroxide — Lists safety rules to be followed in handling the product. Solvay Process Division, Allied Chemical & Dye Corp., 61 Broadway, New York 6, N. Y.

R-434 Base Detergent Acids—Bulletin tells how new TENN-ACIDS offer simple and practical method for mills to prepare concentrated, low cloud point detergents based on alkyl aryl sulfonates. Tennessee Corp., Marketing Research & Development Dept., 1330 W. Peachtree St., Atlanta 9, Ga.

R-435 Cut Water Treatment Costs — Describes the control of scale, slime, algae and corrosion. Oakite Products, Inc., 126C Rector St., New York 6, New York.

R-436 Rapidase For De-Sizing — The properties and characteristics of Rapidase in detail. Wallerstein Co., Inc., 180 Madison Avenue, New York 16, N. Y.

R-437 Caustic Soda—Book describes the uses, manufacturing processes, unloading and dissolving diagrams, materials of construction, analytical processes, etc. Wyandotte Chemicals Corporation, Michigan Alkali Division, Wyandotte, Michigan.

R-438 Surface-Active Agent — Properties, applications, of Nonionic Actylphenoxyethanol Triton. Rohm & Haas Co., Special Products Dept., Washington Square, Philadelphia, Pa.

R-440 Guiders And Tension Devices — Straight line guiding of open width goods. Mount Hope Machinery Co., 15 Fifth St., Taunton, Mass.

R-441 Processing Arnel Fabrics and Blends — Formulas for dyeing, printing, finishing and heat treating. Celanese Corp. of America, Textile Div., Marketing Dept., Box 1414, Charlotte, N. C.

R-442 Hycar Latices — Physical properties and typical fields of application. B. F. Goodrich Chemical Co.,

R-443 Sodium Hydrosulfite — Literature and test samples are available on "T-C Hydro." Tennessee Corp., 617-629 Grant Bldg., Atlanta, Ga.

R-445 New Finishing Rolls — Money-saving facts about long-wearing, quality rolls. The Dayton Rubber Co., Holfast Div., 1486 Lakewood Ave., Atlanta, Ga.

R-446 Ethanolamines — Lists application, chemical and physical properties. Nitrogen Division, Allied Chemical and Dye Corp., 40 Rector St., New York 6, New York.

R-447 Nappers For Treating Any Fabrics — Complete details on Muller Tri-Napping Machine. Franz Muller, Monchen-Gladbach, Germany.

R-448 Ball Bearing Turn Table — Describes 48-inch steel turn table for mills. Birch Brothers, Inc., 32 Kent St., Somerville, Mass.

R-449 Rotary Dyeing Machine—For use in dyeing hosiery, hats, gloves, socks, etc. Turbo Machine Co., Lansdale, Pa.

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R-459 "PCB" Rock Salt — Tells how product saves money, eliminates bad dyeing. Morton Salt Co., Industrial Division, 120 So. LaSalle St., Chicago 3, Ill.

R-461 Wool Oils—Describes influence of wool oils in producing suality yarns and fabrics. Proctor & Gamble Dist. Co., Gwynne Bldg., Cincinnati, Ohio

R-462 Bleaching With Peroxygen Chemicals — Bleaching methods comprehensively treated. Becco Chemical Div., Food Machinery & Chemical Corp., Station B, Buffalo 7, New York.

R-464 Automatic Control System For Continuous Bleaching — How to control temperature, pressure and liquid level. Taylor Instrument Companies, Rochester 1, New York.

R-466 Penford Finishing Gums — Complete data, including physical properties. Penick & Ford Ltd., Inc., 420 Lexington Ave., New York 17, New York.

R-467 Regeneration Of Zeolite Water Softeners — Explains advantages of Lixate Process. International Salt Co., Scranton, Pennsylvania.

R-468 Dyeing Synthetic Fibers—Detailed analysis of methods and materials. General Dyestuff Co., 435 Hudson St., New York 14, New York.

R-469 Single Apron Stock Dryers — Presents latest idea in automatic drying. C. G. Sargent's Sons Corp., Graniteville, Mass.

R-470 Eliminate Dye-Bath Shock — How to protect fabrics from crow's-feet, uneven shades. Foxboro Company, 487 Neponset Ave., Foxboro, Mass.

R-474 Industrial Brushes — Features use on shears, printing machines. M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, N. J.

R-475 Waste Heat Recovery — Describes system of waste heat recovery from polluted water. Ludell Mfg. Company, 5200 West State Street, Milwaukee, Wis.

R-476 Washers For Scouring, Bleaching, Acidifying — Describes high-capacity, continuous process washers. C. G. Sargent's Sons Corp., Graniteville, Mass.

R-478 Wool Cleaning Unit—Describes unit for cleaning carpet wools mechanically before scouring. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

R-479 Naphthol for Lightfast Browns—Booklet describes new, straight, nonsubstantive naphthol, Naphthol AS-BN, for the continuous naphtholation of cotton and rayon piece goods in the dyeing of economical, fast-to-light browns. General Dyestuff Co., 435 Hudson St., New York 14, New York.

R-480 Softener, Lubricant, Napping Aid—Technical information available on softener, lubricant and napping aid for natural and synthetic fibers, yarns and fabrics. Nopco Chemical Co., Harrison, N. J.

R-481 Handbook on Methocel—Gives technical information and use data on family of methylcellulose ethers called Methocel. Organic Chemicals Sales, The Dow Chemical Co., Midland, Mich.

FIBERS AND YARNS

R-502 Fortisan-36, New Textile Fiber—Includes charts, diagrams, text, presents technical properties. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte, N. C.

R-503 Caprolan Nylon Heavy Yarns—Describes strength, long flex life and ready dyeability. Fiber Sales Dept., National Aniline Div., 261 Madison Ave., New York 16, N. Y.

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R-507 The Chemstrand Nylon Story—Describes the birth and growth of Chemstrand nylon. Chemstrand Corp., 350 Fifth Ave., New York 1, N. Y.

R-508 Color-Fast Fibers — Further information on "Coloray," Courtauld's solution dyed rayon staple which is a contribution to colorfastness in fabrics. Courtaulds (Alabama) Inc., 600 Fifth Ave., New York 20, N. Y.

RESEARCH—TESTING—LABORATORY

R-601 Testing Instruments—Descriptions of 37 instruments for testing textiles. Custom Scientific Instruments, Inc., 541 Devon St., Kearney, N. J.

R-602 Metal Detector — Spot troublemakers before they harm equipment or fabrics. Radio Corp. of America., Dept. S-271, Building 15-1, Camden, N. J.

R-603 Shadograph Weighing Devices—Pictures and information on various types of scales. Exact Weight Scales Co., Columbus 8, Ohio.

R-604 Evenness Tester—Details on taking the guess out of quality control. Uster Corp., 2516 Wilkinson Blvd., Charlotte, N. C.

R-606 Strobotac — Measures speed of rotating, reciprocating or other cyclic motions. General Radio Co., 275 Massachusetts Ave., Cambridge 39, Mass.

R-607 Yarn Count Scale—Data sheet tells how direct-reading instrument provides fast, accurate method of determining yarn count number. Exact Weight Scale Co., Columbus, Ohio.

MANAGEMENT, PROCESS ENGINEERING CONSULTANTS, FACTORS

R-701 Factoring Service—Details on advantages of factoring, including information on general banking and pension plans. Trust Company of Georgia, Atlanta, Ga.

R-702 Beechcrafts At Work — Tells how Beechcraft exeeutive airplanes can save time and money. Southern Airways Co., Atlanta Airport, Atlanta, Ga.

R-705 The Wonalancet Way — Deals with current problems in Textiles. Wonalancet Company, 128 Burke St., Nashua, N. H.

R-706 A Fair Day's Pay And In Return A Fair Day's Work — Outlines proper utilization of labor, material and equipment. American Associated Consultants, Inc., 250 Park Ave., New York, N. Y.

R-707 Non-Woven Fabrics— Booklet gives outline of nature and history of non-wovens and the manufacturing techniques of today. Booklet 56-219A, Chemical Div., Goodyear Tire & Rubber Co., Akron 16, Ohio.

GENERAL PLANT OPERATION

R-801 Textile Brushes — Describes complete line of brushes for all departments of mill. S. A. Felton & Son Co., Manchester, N. H.

R-802 Belt Lacing Equipment — Includes prices, specifications, etc. Clipper Belt Lacer Co., Grand Rapids, Michigan.

R-804 "Motor Selector." — How to select a-c motors for specific application. Bulletin B-2103. Reliance Electric & Engineering Co., 24701 Euclid Ave., Cleveland 17, Ohio.

R-805 Everything For Floor Care — Describes scrubbing, waxing, polishing and mopping equipment as well as waxes, sealers, and cleansers. Finnell System, Inc., Dept. TI, 1300 East St., Elkhart, Ind.

R-806 Rotary Pressure Joints—Details on self-lubricating, self-adjusting, self-aligning joints. The Johnson Corp., Three Rivers, Mich.

R-807 Servicing "One-Shot" Lubricators—Describes high capacity spring discharge piston pump lubricator. Bijur Lubricating Corp., 151 W. Passaic St., Rochelle Park, N. J.

R-809 Wrap Up Lint Problems—Automatic lint filters remove lint from air, winds it into desposable roll. Bulletin 234, American Air Filter Co., 275 Central Ave., Louisville 8, Ky.

R-810 Stop Corrosion — Details on "Speed-Rex" paint for metal, wood and concrete. Truscon Laboratories, Box 69, Milwaukee Junction, P. O. Dept. T, Detroit 11, Mich.

R-812 Mechanical Power Transmission — Includes drawings, dimension, weights, prices, application. Dodge Mfg. Corp., Mishawaka, Indiana.

R-813 Metal Cleaner and Preserver—Describes Immunol, a neutral, nontoxic, non-flammable, odorless solvent that cleans, degreases and rustproofs metal. Harry Miller Corp., 4th and Bristol Sts., Philadelphia 40, Pa.

R-816 Leather Belting — Selection, installation, proper maintenance. Atlanta Belting Co., 506-510 Whitehall St., S. W., Atlanta, Ga.

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R-820 Floaxial Dial Scales — Explains mechanism and gives applications. Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill.

R-822 Industrial Greases — Describes multi-purpose lithium soap industrial greases. Sinclair Refining Co., 600 Fifth Ave., New York, New York.

R-823 Roller Bearings For Textiles—How roller bearings are employed for more profitable textile production. Hyatt Bearings Div., General Motors Corp., Harrison, N. J.

R-824 Cylinders And Boosters — Complete listing of "in stock" equipment including proce and description. Miller Fluid Power Co., 2040 N. Hawthorne, Melrose Park, Ill.

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R-829 Paint Stripping Booklet — Explains simplified method of stripping paint. Oakite Products, Inc., 22 Thames St., New York 6, New York.

R-830 Air Filtration — Illustrates Auto-Airmat, a dry-type air filter. American Air Filter Co., Inc., 275 Central Ave., Louisville 8, Ky.

R-832 Drinking Fountains & Coolers—Description of all models, dimensions, illustrations. Halsey W. Taylor Co., Warren, Ohio.

R-833 Textile Leathers Catalog — Characteristics and advantages of "Tannate" leathers. J. E. Rhoads & Sons, 2100 W. Eleventh St., Wilmington, Del.

R-834 Catalog Of Needle Bearings — Design, application for five types of needle bearings. The Torrington Co., Torrington, Conn.

R-836 Metered Lubrication — Points up advantages of central lubrication systems. Bijur Lubricating Corp., Rochelle Park, N. J.

R-837 Service Procedure For Ball Bearings—Helpful manual shows how to increase life of ball bearings. New Departure Div., General Motors Corp., Bristol, Conn.

R-839 Lubrication Of Electric Motors—How to lubricate and clean ball and roller bearings. New York & New Jersey Lubricant Co., 292 Madison Ave., New York 17, New York.

R-840 Ball Bearings For Textile Machinery — Bearings for all phases of textile processing. The Fafnir Bearing Co., New Britain, Conn.

R-841 Lubrication Of Bearings — Helpful list of do's and don'ts to prolong bearing life. New York & New Jersey Lubricant Co., 292 Madison Ave., New York 17, New York.

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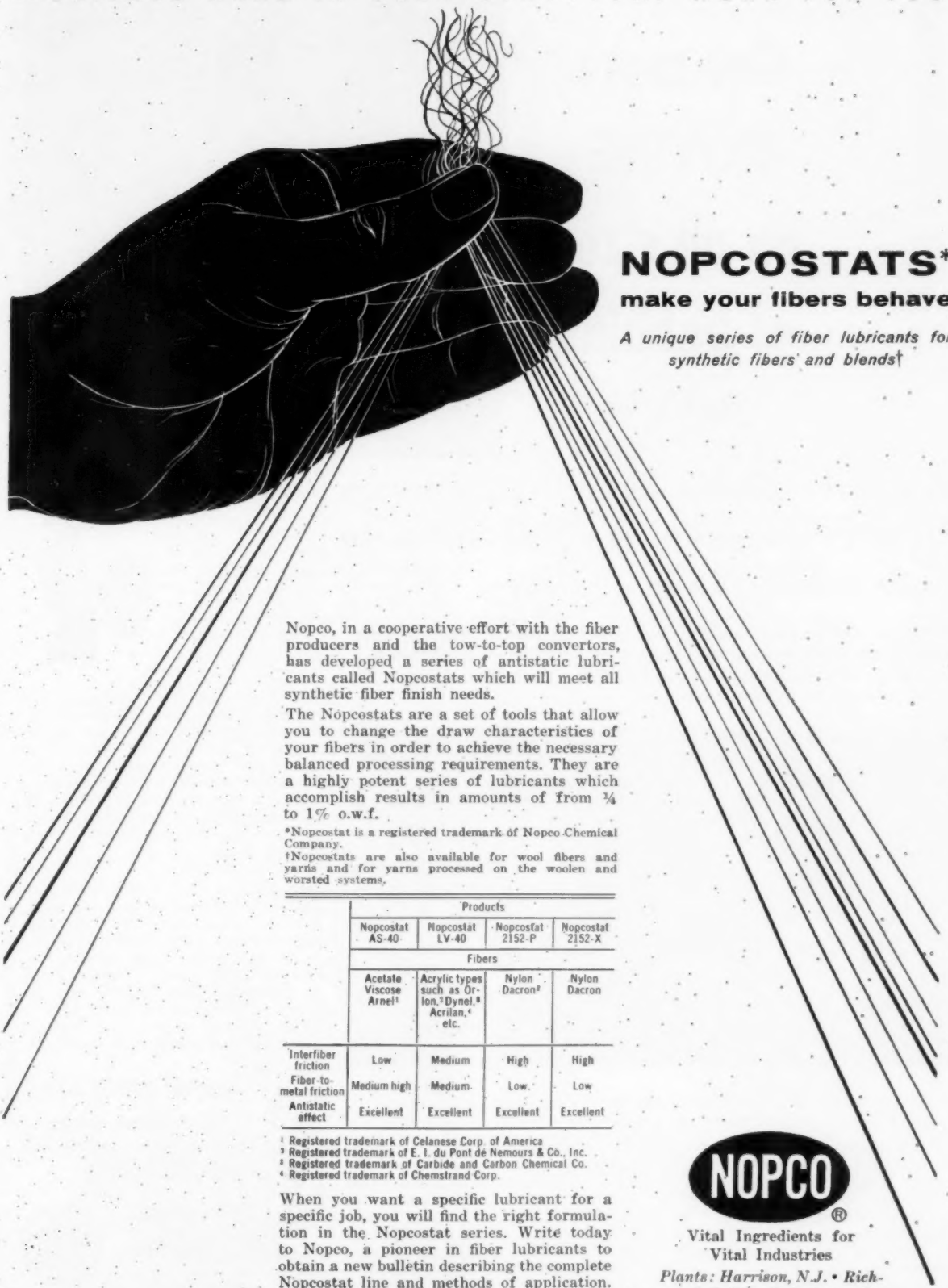

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A unique series of fiber lubricants for synthetic fibers and blends†

Nopco, in a cooperative effort with the fiber producers and the tow-to-top convertors, has developed a series of antistatic lubricants called Nopcostats which will meet all synthetic fiber finish needs.

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†Nopcostats are also available for wool fibers and yarns and for yarns processed on the woolen and worsted systems.

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	Acetate Viscose Arnel[1]	Acrylic types such as Orlon,[2] Dynel,[3] Acrilan,[4] etc.	Nylon Dacron[2]	Nylon Dacron
Interfiber friction	Low	Medium	High	High
Fiber-to-metal friction	Medium high	Medium	Low	Low
Antistatic effect	Excellent	Excellent	Excellent	Excellent

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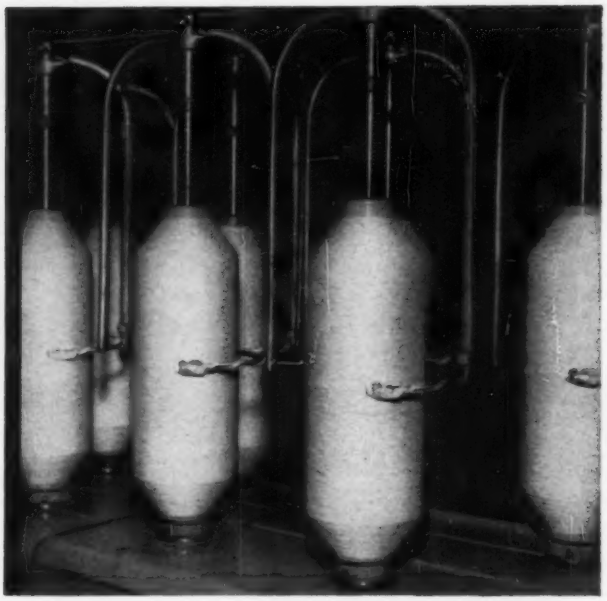

New Arro Flyers with High Tension Pressers increase weight 25-40% with no deterioration in quality

We believe this combination gives more roving on bobbins than any other system in the world. The evenness obtained equals or betters production with usual flyers. Weight is increased without increasing the twists per inch or the number of turns around the presser arm.

These frames are producing .60 hank from 70 grain sliver at a spindle speed of 735. Ends down average less than 2 per hank.

In a test recently run in the South on a 10 x 5 slubber with 2.50 hank roving, 1-7/16" combed cotton with a .90 twist multiplier and a spindle speed of 1004 r.p.m., the weight was increased from the normal 28 ozs. net to 39 ozs.—an increase of about 40%.

"Arro" Flyers can of course be put on any frame: for ultimate efficiency we recommend the Platt MS.2 Roving Frame. These streamlined frames produce an even non-stretched roving of superior quality. Vibration and sound have been cut to a minimum. This smoother operation increases the frame's life. The more even roving means fewer ends down in spinning. Before purchasing any new frames, we invite you to write for more information on those made by the *world's largest manufacturer of textile machinery.*

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New "Arro" Flyer has a finish considerably better than previously obtainable. Even the inside of the hollow leg is completely finished. Mill tests have shown that fibre accumulation is reduced at least 25%. Another important feature is that the threading slot is in the leading side of the hollow leg so air enters the slot and prevents escape of loose fibre.

Even if you don't wish to invest in new frames to get heavier packages, consider the proven "Arro" Flyers for your present frames. Over 3,000 are running in the south. Call Gene Bozeman at Charlotte, (FR 5-1640), Harvey Clinch at Greenville, (GR 9-6257), or the writer at Framingham, Mass., (TR 3-7496). Any one of these numbers will give you more information about cost, etc.

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PAINT BULLETIN

FROM INDUSTRIAL FINISHES DIVISION
MINNESOTA PAINTS, INC.

SUBJECT: Machinery Enamel

No. 3 of a new, instructive series of Paint Bulletins. The information, compiled by the Industrial Division of Minnesota Paints, Inc. is the result of intensive research and extensive data collected from numerous successful applications.

Conditions in your plant govern selection of machinery paints. Quick-drying regular, epon and rubber base machinery enamels are available. However, it is good to be aware of the performance qualities of paints specially formulated to meet textile mill conditions. Here are some pertinent facts about modern textile machinery coatings:

UNDER SEVERE CONDITIONS of humidity, acid or alkali, it costs less in the long run to use a dependable brand of paint that will resist mildew, steam, rust and corrosion. Your machinery enamel should be a type that is easily cleaned, that resists fading, bleaching, yellowing. The paint must be resilient enough to withstand machine vibrations and stresses. And this flexible quality must last a long time. Some types of paints become brittle with age and exposure to light. When this happens, protection and beauty is lost. It will then, of course, deteriorate rapidly.

A PROVEN TEXTILE MACHINERY FINISH, widely used throughout the industry, is Minnlite Fumeproof Dado and Machinery Enamel. It is highly recommended for use on most machinery, including continuous dye ranges, washers, mercerizers, jay boxes, etc. This tough, rubber base finish is highly resistant to mildew, steam, rust, acids and chemicals. Properly applied with a rubber-base rust-inhibitive primer, it is an excellent retardant to corrosion. Only a mild solution of a common detergent, such as Cleanall, is necessary to keep the tight, non-porous coating bright and clean. Minnlite Fumeproof Enamel also has strong color retentivity, keeps its vital flexibility indefinitely.

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Fill out and send us the coupon below for a FREE Paint Survey. One of our men with practical experience in the application of paints in the textile industry will survey your plant, at your convenience, and recommend the *right* paint for each of your particular needs. *There is absolutely no obligation for this service.* And it could bring you valuable returns in better plant appearance and in lower maintenance costs.

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Gentlemen: ☐ Please have one of your industrial paint experts call me to arrange for a FREE Paint Recommendation Survey of my plant.

☐ Please send me a free color card showing the exact shades available in Minnesota Machinery Enamel.

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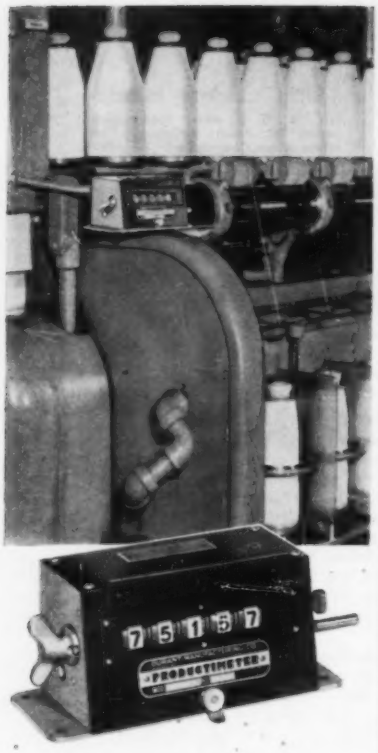

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Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 40)

Henry A. Truslow, president of Ponemah Mills, Taftville, Conn., was re-elected president of the Northern Textile Association at the recent annual meeting. Re-elected vice-president was **John F. Shaw,** vice-president of Chicopee Manufacturing Corp., Chicopee Falls, Mass. Newly elected vice-president was **George A. Dorr, Jr.,** president of Dorr Woolen Co., Guild, N. H. * * * **Charles F. Broughton** and **Paul Whitin,** both retired, were made life-time honorary members of the association in recognition of their outstanding contributions to the textile industry during their many years as top executives. Mr. Broughton was formerly head of Wamsutta Mills and Mr. Whitin served for many years as chairman of the board of Paul Whitin Manufacturing Co.

James H. Woodside has been re-elected president of Textile Hall Corp. Also reelected were **Sydney Bruce,** Piedmont Plush Mills, Inc., Greenville, S. C., vice-president; **Bertha M. Green,** secretary; and **W. G. Sirrine,** chairman of the board.

The North Carolina Textile Manufacturers Association has elected **William C. Cannon,** vice-president of Cannon Mills Co., president. Other officers elected were: **J. C. Cowan,** vice-chairman of the board of Burlington Industries, Inc., first vice-president; and **Donald R. Jonas,** executive vice-president of Johnston Mills Co., second vice-president. * * * Association members paid tribute to **Hunter Marshall,** who has retired after serving as secretary-treasurer for 41 years. He is succeeded by **Tom Ingram.**

Owens-Corning Fiberglas Corp. has appointed **Roland K. Gagnon** manager of technical service and development of Fiberglas decorative fabrics in the decorative textile processing laboratory at Ashton, R. I.

Mr. Gagnon

Mr. Griffis

J. T. Griffis, vice-president and general manager of Southern Asbestos Co., Charlotte, N. C., has been elected president of the Asbestos Textile Institute. Other officers elected at the Institute's annual meeting were: **A. J. Scanlon,** American Asbestos Co., Norristown, Pa., vice-president; **W. S. Hough,** Johns-Manville Co., treasurer; Dr. **M. C. Shaw,** Philadelphia Textile Institute, secretary and assistant treasurer.

Walter S. MacPhail has been made vice-president and merchandise manager of the industrial fabrics departments of Wamsutta Mills, Inc., and Pacific Mills Domestics Corp., both divisions of M. Lowenstein & Sons, Inc.

The Textile Institute, Manchester, England, has awarded a fellowship to **Ludwig Rebenfeld.** Dr. Rebenfeld is director of cotton research, Textile Research Institute, Princeton, N. J.

The Wool Bureau, Inc., has appointed **Richard M. Detwiler** director of publicity, succeeding Albert W. Bates.

Retiring president of the NCTMA Halbert M. Jones (right) passes the gavel to Mr. Cannon. Looking on are (l. to r.) Messrs. Jones, Marshall, Ingram, and Cowan.

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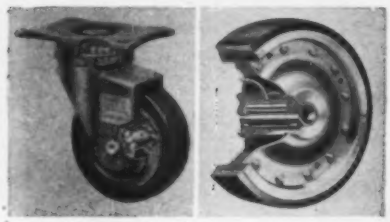

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Personal NOTES ABOUT MEN YOU KNOW

James Lees and Sons Co. has appointed **James L. Fesperman** to the newly-created position of general manager for the company's three southern manufacturing divisions: The Pine Tree Co., Dahlonega, Ga.; Rabun Mills, Rabun Gap, Ga.; and Fontana Mills, Robbinsville, N. C. Mr. Fesperman will make his headquarters at Rabun Gap, Ga.

Mr. Fesperman

Mr. Pennington

Horace Pennington has been named manager of the Dwight division of Cone Mills Corp., Gadsden, Ala. He replaces **Charles Moody**, who will head a new section of Cone Mills' research division in Greensboro, N. C. * * * **Monroe Whitt** has been appointed purchasing agent for Proximity Print Works, Greensboro, N. C., a Cone Mills subsidiary. It was announced that the newly created purchasing department will, in time, absorb the purchasing operations of the Granite Finishing Co. at Haw River, N. C.

Newberry (S. C.) Mills, Inc., has appointed **L. E. Gatlin** to the position of general manager. He was previously senior associate, textile division, Kurt Salmon Associates, Inc. * * * **Fred Weir** has been promoted to superintendent of Newberry Mills. He has been employed in various technical positions for the past eight years, his most recent position being assistant manager.

George Wales, with the sales department of Ware (Mass.) Knitters, Inc., has been assigned to a similar post with Gilbertville (Mass.) Mills, and **Victor Kmiec** has been named production manager there. These positions were formerly held by **Robert Nields**, who recently resigned.

Elmer Ferrante has accepted the position of superintendent at the Lodi (N. J.) Piece Dye Works. He was formerly expediter for Palmer Dyeing Co.

After 42 years service with the Trion, Ga., division of Riegel Textile Corp., **Tommy Giles** has retired. At the time of his retirement, he held the position of traffic manager.

OBITUARIES

Henry A. Aldrich, Jr., 37, superintendent of finishing, Aldon Rug Mills, Lenni, Pa.

Alfred H. J. Boger, 42, treasurer of Boger & Crawford, Inc., Philadelphia, Pa.

John H. Callen, 57, vice-president of Peerless Woolen Mills, Rumson, N. J.

George G. Chance, 70, board chairman of National Cotton Council, Bryan, Tex.

Julian T. Chase, 70, retired southern manager for National Aniline div., Allied Chemical Corp., Albemarle, N. C.

C. Herbert Davison, 75, board chairman of Hightstown Rug Co., Princeton, N. J.

Daniel W. Farnsworth, 93, textile mill executive, Upper Montclair, N. J.

Christian T. Haag, 70, retired superintendent of hose division, U. S. Rubber Co., Passaic, N. J.

Severn Haigh, 75, district sales manager of Textiles, Inc., Philadelphia, Pa.

Edward P. Henry, president, Delaware Valley Wool Scouring Co., Philadelphia, Pa.

Werner W. Lasch, 45, former hosiery mill manager, Belvidere, N. J.

W. F. McCanless, 70, textile manufacturer, Salisbury, N. C.

R. L. Mauney, 82, textile executive, Kings Mountain, N. C.

Robert Wallace Nelson, 48, vice-president of American Air Filter Co., Inc., Louisville, Ky.

Howard M. Parks, 79, board chairman of Parks-Cramer Co., Fitchburg, Mass.

Edward T. Pickard, 72, retired secretary of the Textile Foundation, Kent, Conn.

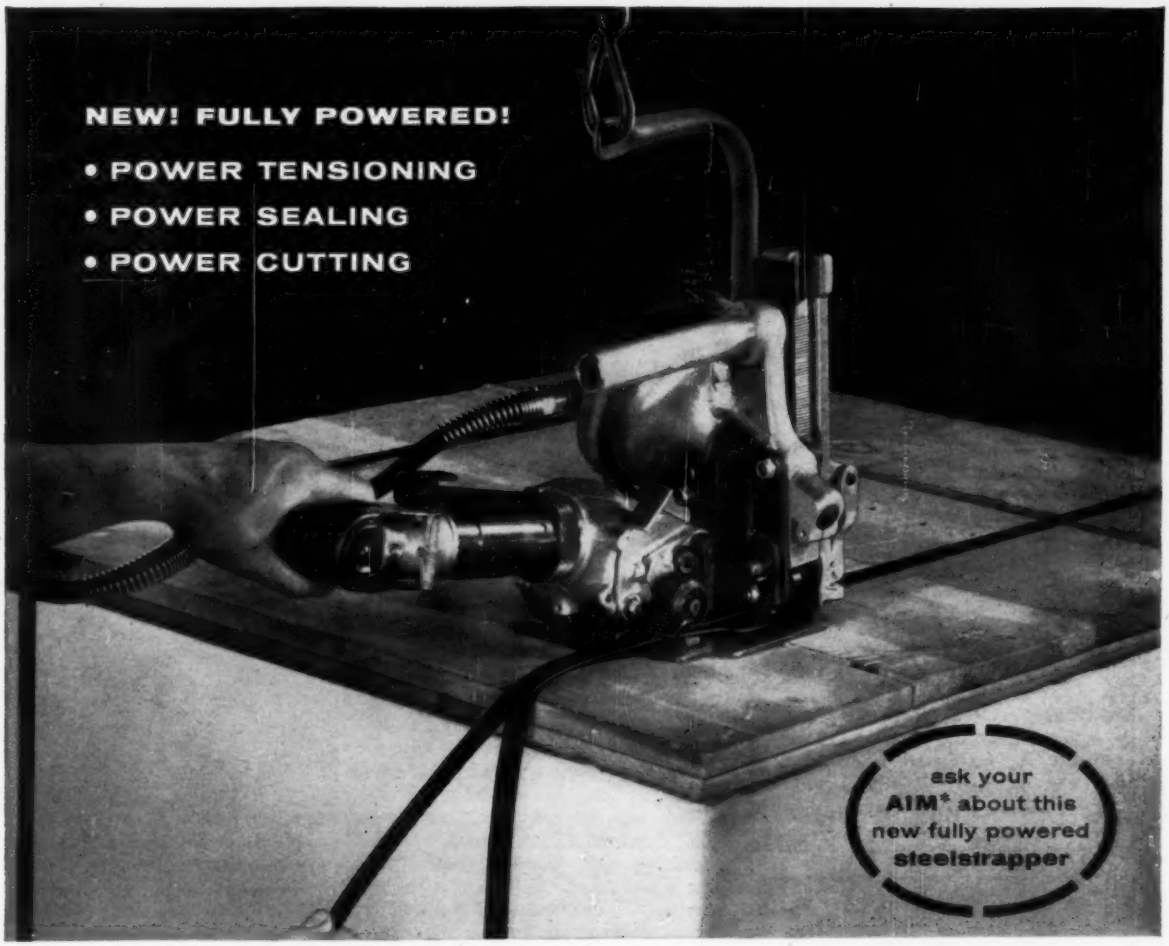
Josef Pollack, 78, former president and board chairman of Max Pollack & Co., Tarrytown, N. Y.

Walter S. Pomeroy, 73, former president of Thayer Woolen Co., Cheshire, Conn.

Paul C. Shipman, 33, treasurer and general manager of Fairview Hosiery Mills, Hickory, N. C.

Lewis W. Thomason, Jr., 47, southern district manager for New York & New Jersey Lubricant Co., Concord, N. C.

Eric G. Verney, 52, retired textile executive, Brunswick, Me.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Contact your Acme Idea Man at the nearest Acme Steel Company office. Or write: Dept. TFS-128, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois. In Canada, Acme Steel Company of Canada, Ltd., 743 Warden Ave., Toronto 13, Ontario.

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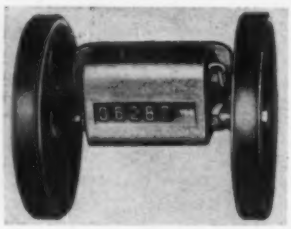

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What the TEXTILE MILLS are doing

Construction has begun on a new opener room at **Exposition Cotton Mills Co.**, Atlanta, Ga., according to President George E. Glenn, Jr., in a message to employees in a recent issue of "The Exposition." The present opener room building will be used for a cotton warehouse. Other planned improvements include the addition of new pre-openers to the hopper feeders, and the installation of the latest screen dust collector. The drawing frames in the card room have been rearranged for economy of movement and efficiency, and a new high-speed slasher has been installed in the slasher room.

Franklin Sweater Mills, Inc., Philadelphia, Pa., is producing on a mass scale what is said to be the first patented truly "stretch" knitted swim trunk in the world. The construction was achieved by completely rebuilding knitting machines and developing equipment featuring new types of needles and knitting approaches. Although specially processed yarn is used, the patent was obtained on the actual construction of the garments.

Groves Thread Co., Inc., Gastonia, N. C., expects to spend more than half a million dollars on expansion and improvements before the middle of next year. Plant No. 1 will be air conditioned and a two-story, 30,000-sq ft addition will be built on the south side of the present structure. The addition will be equipped with cards, combers, roving frames, spinning frames, spooling, and twisting. * * * The gymnasium of Groves Thread Co. burned recently. The building was said to be a complete loss. No plans for rebuilding are being considered at present.

Fulton Bag & Cotton Mills, Atlanta, Ga., has instituted a $2 million modernization development program to be completed within the next few years. New quilling equipment to handle coarse yarns has been installed, along with the extension of automatic spooling. A new laminating machine has been added for producing waterproof laminated papers and textiles. Part of the program includes the addition of printing machinery for the toweling department and equipment to provide plastic coated and wrinkle resistant finishes. Special emphasis will be placed on streamlining and enlarging the finishing departments.

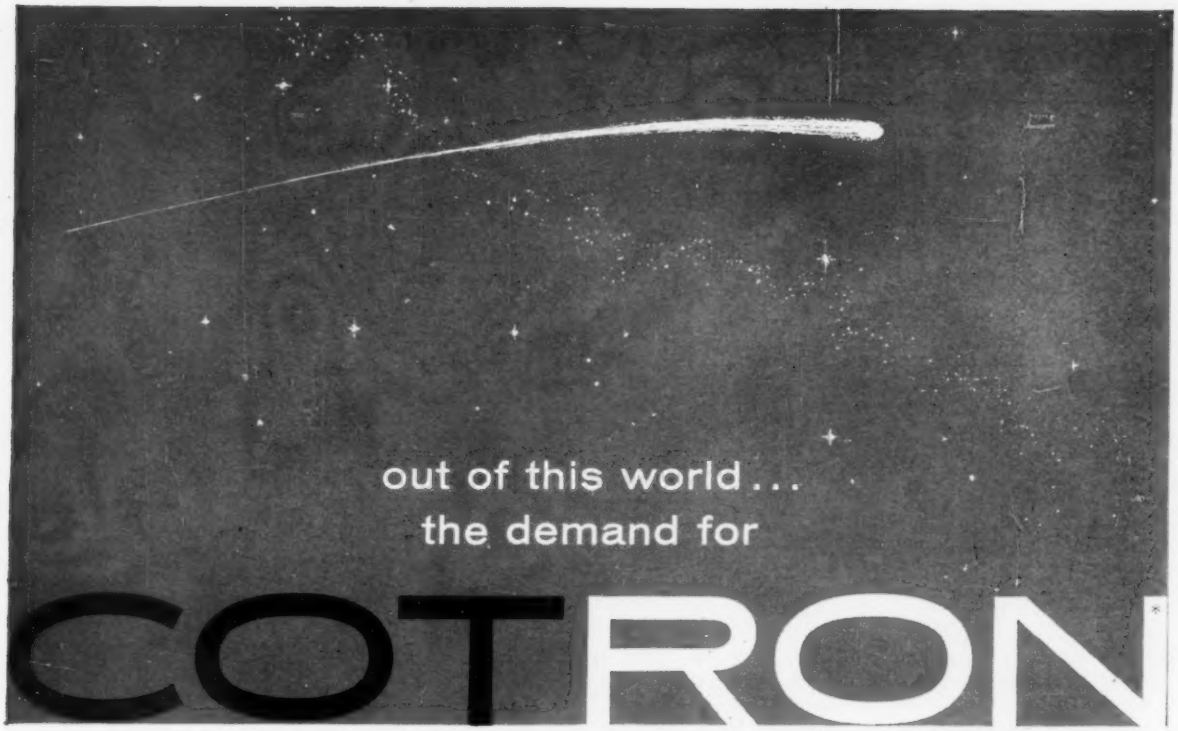
Hightstown (N. J.) Rug Co., Inc., has announced a new construction, the feature of which is a weaving of the surface yarns through to the back which is coated with a clear plastic producing an exceptionally strong and long-wearing fabric. This

construction employs a completely new weaving technique for which a new type of machine has been developed by Hightstown. Patents are pending on the machine and the construction.

A subsidiary firm, **Knitted Trimming Corp.**, has been formed by **Rosemont Knitting Mills, Inc.**, Philadelphia, Pa., for the manufacture of all types of plain and fancy knitted trimmings for the sportswear and dress trades. Leonard C. Pratt, Jr., is president and treasurer; Naphtole H. Fisher is vice-president and secretary.

A 21,000-sq ft one-story building has been leased to **J. B. Martin Co.** in the Batesburg-Leesville, S. C., area by Frank G. Binswanger, Inc. The Martin firm manufactures pile fabrics and velvet textiles.

Cheney Brothers-Southern, Inc., Anderson, S. C., a subsidiary of **La France Industries, Inc.**, is gradually expanding into full production. According to "La France Life," the plant's 83 looms are divided between velvet, plush, and upholstery production. More velvet looms will be added. Full production will probably be reached in another 12 months. * * * The Pendleton



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What the TEXTILE MILLS are doing

Manufacturing Co., La France, S. C., a La France subsidiary, is giving annual free subscriptions to "Guideposts," a national inspirational and informative magazine, to approximately 800 employees. * * * La France was among the 14 plants honored recently by the Anderson, S. C., Chamber of Commerce for outstanding service to the area during the past 50 or more years. A plaque was presented to K. T. Greenwood, plant manager, and Oscar Ferguson, superintendent, by retired Wellington Mill executive Aubrey Marshall in recognition of La France's contribution to the community.

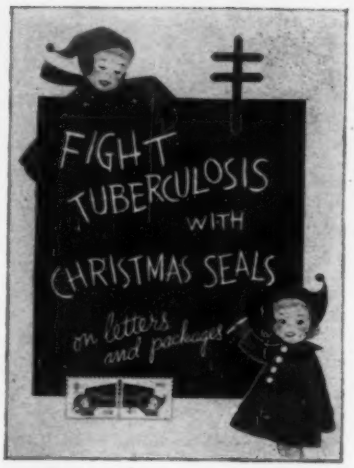
Arco Mills, Inc., New Bedford, Mass., now has 200 looms in operation weaving fabrics of synthetic yarn. The recent installation of 72 new XD looms increased employment and was expected to up production twofold. The firm occupies the quarters of the former Fairhaven Mills.

The wool and hair mill of **E. S. Parkhurst & Co.,** Gloversville, N. Y., has been sold to **G. Levor & Co., Inc.** It was said that Levor contemplates no change in operations. According to the agreement, Parkhurst will remain as tenants of Levor and will continue to supervise wool and hair operations.

Liquidation of the New Bedford, Mass., plant of **M. Lowenstein & Sons** has resulted in the reassignment of machinery to plants in Anderson, Lyman, and Columbia, S. C. It was emphasized that the move will not result in an expansion but rather that the machinery will replace obsolete equipment.

Charter of incorporation has been issued to **Lynne-Knit Hosiery Mills, Inc.,** Mount Airy, N. C., with authorized capital of $100,000. Incorporators are D. C. Lewis, Frank Heathcote, and Edward Heathcote.

Manor Rug Co., Dalton, Ga., celebrated the dedication of its new



building recently with formal ceremonies and a chicken dinner for all employees and guests. The former quarters now serve as the shipping department, and the new building is already being expanded. Plans have been made to double its capacity.

The dedication of the addition to the Andrews, S. C., finishing plant of the **Oneita Knitting Mills** was celebrated with an open house which included refreshments and conducted tours. The addition represents a 50 per cent increase in the plant's floor space. Used to house the shipping department and for warehouse space, the addition makes available more space in the old building for manufacturing operations.

The textile vocational classes at the Hogansville, Ga., plants of **U. S. Rubber Co.** earned a tie with the employees of three other textile plants in the highest number of diplomas awarded by the Georgia Department of Education and Georgia Tech for the school year recently completed. Last year the Hogansville plants topped other Georgia textile manufacturing plants in the number of diplomas earned.

Employees of **Wellman Combing Co.,** Johnsonville, S. C., qualified for the South Carolina Department of Labor safety award by decreasing the accident frequency rate by more than 40 per cent during 1957.

Fountain Inn, S. C., saluted the Woodside plant on its 50th anniversary as a member of the **Woodside Mills** group by declaring the first week in October "Industry Appreciation Week." More than 400 visitors were conducted through the plant during the open house held as

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What the TEXTILE MILLS are doing

a part of the celebration. * * * According to "Woodside Chain News," the dyehouse at the Liberty (S. C.) Woodside Mill processed its millionth pound of yarn since the first of the year in September, a production record in the department's six-year history.

New quarters for the home offices of **The William Carter Co.** were officially dedicated in Needham Heights, Mass., recently. The three-

story building addition increases offices, warehouse, and shipping space to 400,000 sq ft for the 93-year-old firm.

Scouring and dyeing operations have begun at **Connecticut Dye Works,** a new corporation in Thompsonville, Conn. General manager is Thomas Lyons, who was formerly in charge of scouring and dyeing for Bigelow-Sanford.

The recently formed **Imperial Mills Corp.,** New York City, has changed its name to **Daimler Mills Corp.** Jointly owned by Bachmann Uxbridge Worsted Corp. and Shampain-Jacobs, Inc., the firm will make and sell men's and women's coat fabrics of Mongolian cashmere.

The Montreal Cottons, Ltd., subsidiary of **Dominion Textile Co., Ltd.,** has opened a new cotton yarn spinning mill in Valleyfield, Que., Canada. The 870 x 265 ft, windowless, one-story plant, named the Salaberry Mill, is completely air conditioned and equipped with more than $3 million worth of machinery. Employees will number about 170.

Elizabeth Hosiery Mills, North Wilkesboro, N. C., has been completely destroyed by fire.

Joseph Bailis (right), president of Lebanon of California, displays the gold medal in his left hand. Holding the award-winning fabric is Robert E. Huhnke of Dow Corning Corp., supplier of the silicone finish used on the fabric.

Lebanon of California, Inc., Los Angeles, Calif., was awarded a gold medal for a new 100 per cent wool jersey fabric by the judges of the 1958 International Textile Exposition at the California State Fair. For use in the manufacture of all-weather coats, the fabric weighs 11 oz per yard and is treated to provide a soft hand and resistance to water spotting and stains.

Palatine Dyeing Co., St. Johnsville, N. Y., held open house recently to show its new 650,000-cu ft warehouse. Visitors saw both the new warehouse and the plant in operation. Approximately 1.5 million lb of fabric can be stored in the warehouse, which is fitted with cantilever type racks and a conveyor. The facility enables the firm to speed up filling of customers' orders.

The Pellon Corp., Lowell, Mass., has begun an expansion program which includes the addition of 100,000 sq ft of warehouse and manufacturing plant facilities as well as the development of new types of non-woven materials.

Paul Bowie, superintendent of the Liberty, S. C., plant of WOODSIDE MILLS, presents a $200.00 check to Liberty school superintendent, Hugh Kolb. The check represents a contribution toward the purchase of band uniforms for the school.

Morgan Dyeing & Bleaching Co., Rochelle, Ill., has discontinued operation of its branch plant in Cleveland, Ohio, and disposed of the equipment. Plans are to expand the package and skein dyeing operations of the main plant in Rochelle. * * * Equipment in Morgan's Cleveland plant has been acquired by **Phoenix Dye Works,** Chicago, Ill., for installation in its Cleveland plant.

The **Albany (N. Y.) Felt Co.** has announced a financial working agreement with **Nordiska Maskinfilt Aktiebolaget,** Halmstad, Sweden, one of the largest European felt makers. One of the first visible effects will be the erection and joint

J. Spencer Standish, vice-president of foreign operations, and Gunnar O. Westberg, Nordiska Maskinfilt's managing director, scan preliminary building plans with John C. Standish, Albany Felt president.

operation of a new felt plant in Mexico City, Mexico. The announcement further states that more than $2 million will be spent on the new project.

An estimated 50 employees may be added at the **Gloversville (N. Y.) Knitting Co.** plant as a result of the agreement between the firm and Continental Mills, Inc. whereby the latter's yarn production and knit cloth operations will be shifted to Gloversville on a contract basis. Continental's manufacturing machinery has been installed at Gloversville and is expected to double that plant's capacity.

The Goodyear Tire & Rubber Co. recently conducted a "Buy Goodyear - Sell Goodyear" campaign. Employees who either bought or sold $100 worth of Goodyear merchandise qualified for a special recognition Goodyear 60th anniversary tie clasp or pin. At least one employee at the Cedartown, Ga., plant had qualified for his fifth award two months before the campaign ended.

Charter of incorporation has been filed by **Harrington & Pugh Hosiery Co., Inc.,** Burlington, N. C. Principals are Charles Harrington, and Paul and Edna Pugh, all of Graham, N. C.

The trucking division of **The American Thread Co.,** Bristol, Tenn., has earned for the second consecutive year a "Fleet Owner" Maintenance Efficiency Award, the nation's highest honor for efficient truck maintenance practices. * * * After a year's collective effort the supervisors at the Willimantic, Conn., plant have produced a set of manuals defining supervisory responsibilities and establishing standards of performance for overseers and assistant overseers at Willimantic.

Pepperell Manufacturing Co. has instituted a program to effect extensive changes in manufacturing facilities. A new weave shed to house higher speed looms has been completed in Lindale, Ga. In Pepperell, Ala., an addition to the

Loose and slack end problems are minimized by Milton's true-running, easily adjustable, heavily ribbed flanges (cast iron or aluminum alloy). They're locked to the barrel with a pressure block threaded on the inner surface, preventing damage to barrel threads. Flange diameters; 12" to 28", in 2" increments.

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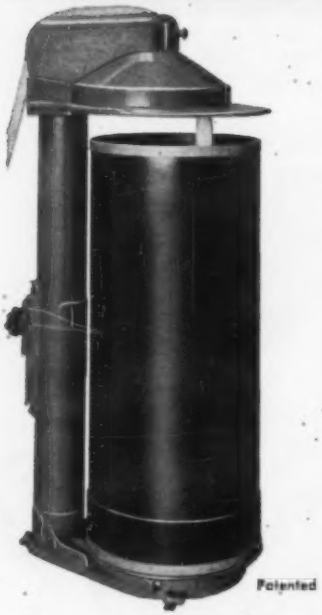

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Power Equipment, Inc.

MACHINE & FOUNDRY DIVISION

McDonough, Georgia, U. S. A.

What the TEXTILE MILLS are doing

bleachery buildings is being used for expansion of facilities for new chemical finishes for wash-and-wear type goods.

The Vulcan Rubber Products division of **Reeves Bros., Inc.**, has developed a new heat-resistant diaphragm fabric for use in gas appliance regulators and in controls of all kinds. The firm especially recommends the fabric where controls operate in elevated temperatures for any length of time.

A three-store, 50,000-sq ft addition to the bleachery division is under construction at **Thomaston (Ga.) Mills.** The new area will provide additional manufacturing and storage space.

Employees at **Borden Mills, Inc.**, Kingsport, Tenn., have given the yardstick or more to the Community Chest and Red Cross campaigns for the fourth straight year. The yardstick in Kingston this year was a contribution of four hours pay by employees on hourly rated jobs, 16% of a week's pay for employees paid by the week, and 8% of a month's pay for employees paid on a monthly basis.

Peerless Woolen Mills, a member company of **Burlington Industries, Inc.**, has reached an agreement with the Tifton Industrial Corp. to purchase land and construct a new plant in Tifton, Ga. The new plant, which is expected to be in operation within a year, will have approximately 175,000 sq ft of floor space, it is anticipated. An estimated 500 persons will be employed initially with the number of employees increasing after production is in full swing. The plant represents a completely new and much larger operation for Peerless in Tifton. Production equipment from the present plant, along with much new equipment, will be used in the new facility.

Kerr Bleaching & Finishing Works, Inc., Concord, N. C., has begun construction of a warehouse on a site adjacent to the firm's present location. The structure is intended primarily to consolidate the finished goods warehousing presently being carried on in various locations.

SUPPLIERS News

WHAT THEY ARE DOING

The major section of the technical laboratory of the Dyestuff and Chemical division of **General Aniline & Film Corp.** has been transferred from Hudson St., New York City, to Easton, Pa. The Hudson St. laboratory will be integrated into an Applications Research and Technical Service function of the Research department.

J. Vaughn Boone has been appointed director of laboratories for the Charlotte, N. C., operations of Geigy Dyestuffs division of **Geigy Chemical Corp.**

Don B. Hooser has been appointed southern district manager of the Cleveland Tramrail division, **The Cleveland Crane & Engineering Co.**

Comer-Avondale Mills, Inc., has moved to a new location in Chattanooga, Tenn. The new address is 3910-A Tennessee Ave., Chattanooga 9, Tenn.

Corn Products Refining Co. and **The Best Foods, Inc.**, have merged to create a new company, **Corn Products Co.**

Henry A. Weil has joined **The Chemstrand Corp.** as a technical sales specialist with headquarters at the company's New York City offices. * * * Charles W. Carvin, Jr., has been named assistant to W. G. Luttage, vice-president and general manager marketing. * * * Arthur W. Lucas has been appointed executive director, finance. He will retain his position as treasurer.

Thomas A. Shem, formerly advertising manager of the Dobeckmun Co., has been named advertising manager of the Textile Fibers department of **Dow Chemical Co.**

J. E. Watson, Jr., has been appointed manager of the Industries Group's New Orleans, La., district of **Allis-Chalmers Manufacturing Co.** He succeeds R. F. Muller who recently retired. W. E. Scott becomes manager of the Miami district, the position formerly held by Mr. Watson. Louis B. Gaudin has been assigned to the New Orleans district as a sales representative.

Erwin G. Walker has been named sales manager of the fibers division of **American Cyanamid Co.** He reports to William L. Lyall, Jr., who has been appointed director of marketing. * * * James Clohessy has accepted a position as senior sales and merchandising representative for the knit goods department of the company's fibers division.

American Enka Corp. has appointed Michael J. Jacobus as technical representative for the south central district, with headquarters in the Chattanooga, Tennessee, sales office.

American Viscose Corp. has terminated its rayon textile yarn manufacturing operations at the Roanoke, Va., plant and has announced that the entire establishment, including land, buildings, and equipment, is to be sold. * * * William E. Coggins has been named supervisor of film division advertising, in addition to his present duties as supervisor of publicity for company products, personnel, and operations. * * * American Viscose Corp. was judged as having the best annual report of the rayon and synthetics industry in the eighteenth annual survey of *Financial World*, national weekly magazine. William H. Brown, vice-president and chief financial officer, received a bronze "Oscar-of-Industry" on behalf of the firm. * * * Richard E. Reynolds has been promoted to the newly-created position of field sales manager for Avisco cellophane. He is located at the Philadelphia headquarters.

The Baxter Corp. has been appointed exclusive agent in the U. S. and Canada by the **Societe des Mecaniques Verdol**, Lyon, France.

William F. Crowder has accepted a position as salesman in South Carolina with **Benjamin Booth Co.** Norman Bush has been assigned to cover North Carolina.

Clifford S. West has joined the **Lunkenheimer Co.** as sales representative out of the Boston, Mass., branch office.

Richard H. Powers has been appointed sales manager, filament yarns, for the textile division of **Celanese Corp. of America.** Henry F. Tindel was named assistant director, new product merchandising, for the division and John C. Cook was appointed assistant merchandising manager. In addition to promoting sales of acetate batting, Mr. Tindel will also participate in merchandising activities related to the floor covering industry. Mr. Cook will assist Louis Laun, general merchandising manager, in planning and executing the division's comprehensive merchandising program for increasing demand for its fibers.

Mr. Powers

Mr. Cook

NON-FLUID OIL

TRADE MARK REGISTERED

AVOIDS SPINNING LOSSES

Change to NON-FLUID OIL and eliminate heavy losses from oil-stained yarn and replacement costs of oil-damaged roll covers and aprons. Drip-less and waste-less NON-FLUID OIL stays in roll necks where it belongs, preventing damage to roll covers and valuable yarn.

NON-FLUID OIL has adhesive qualities that enable it to stay in the bearings until entirely consumed. Every drop gives full lubricating service—and lasts three to five times longer than ordinary oils.

Stop damage by oil stains to goods in process . . . reduce oil costs . . . and check frictional loss of power and wear and depreciation of machines by using the full-time lubricant—NON-FLUID OIL.

Write for Bulletin T-13 and free testing sample of NON-FLUID OIL. Why not make it a point to try NON-FLUID OIL yourself.

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There are many, many reasons and causes for machine failure presenting the costly problem of "Down-time". Some of these every day problems are unforeseen - - - BUT

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ANDERSON SHIELDS
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BREAKING
of your . . .
SPOOLS AND BOBBINS

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LAWRENCE, MASS., U. S. A.

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WORCESTER 8, MASSACHUSETTS
Southern Plants:
Atlanta, Ga., Gastonia, N. C. and Greenville, S. C.
Direct Representation in Canada

T10

SUPPLIERS News
WHAT THEY ARE DOING

Henry A. Jewell has been named director of procurement and material, and Albert F. Koepcke has been named director of industrial and public relations and advertising by **Saco-Lowell Shops.** Both are

Mr. Koepke

Mr. Walters

newly-created positions. * * * Royden Walters has been named executive assistant to the president. * * * Draper Corp. has been awarded contracts to produce a major portion of Saco-Lowell's grey iron castings. President Thomas J. Ault states that the arrangement was occasioned by the discontinuing of Saco-Lowell's textile operations in Maine and increased use of new materials in the firm's products. Draper's president, Thomas H. West, said that facilities at the East Spartanburg, S. C., foundry will be expanded to handle the major portion of the new foundry work. Some increase in volume is anticipated at Hopedale, Mass. * * * A separate automotive and agricultural parts division, with headquarters in Saco, Me., has been created by Saco-Lowell.

The Charles S. Tanner Co. has opened a new southern plant at Greenville, S. C.

During October, **Textile Banking Co.** celebrated its silver anniversary as a subsidiary of Commercial Credit Company. In honor of the occasion, 28 employees who have been with the company for the past 25 years received awards.

According to **Textile Machine Works,** Slane Hosiery Mills, Inc., High Point, N. C., has placed another repeat order for Reading CK-A machines for inlaid pattern socks. With this order, Slane will have 72 machines in operation.

Tompkins Brothers Co. has announced a reorganization with the following newly elected officers: G. R. Fearon, president; P. J. Shea, treasurer; A. W. Ingalls, vice-president; M. Welsh, secretary; W. P. Limbacher, general manager and sales; and R. Yackel, factory superintendent. Willis A. Ingalls will continue in a consulting and advisory capacity.

Jefferson Chemical Co., Inc., has announced the appointment of three new salesmen. They are: Robert E. Lee and Patrick W. Loftus, who will report to the company's Chicago office and Ellsworth F. Benson, who will report to the New York City office.

Bernard J. James has been appointed district sales manager of the Philadelphia, Pa., area for **Johnson Motor Lines, Inc.** He will also represent **Atlantic States Motor Lines, Inc.,** in the area. * * * Leonard A. O'Hara has been named sales representative in the Allentown, Reading, and Scranton, Pa., areas for the combined motor lines.

Electro-Motion Corp., Charlotte, N. C., has been named to represent **Lindly & Co.** in North and South Carolina and portions of Tennessee and Virginia.

Industrial Rayon Corp. has appointed Dr. Gilman S. Hooper as vice-president in charge of research and L. Louis Malm as vice-president

Mr. Malm

Dr. Hooper

in charge of engineering. B. F. Benson has been named market development manager of the industrial products division. At the same time, Ralph J. Manica was promoted to head of the tire cord evaluation laboratory.

Robert E. Mulcahy has been appointed northern regional sales representative for Fiber Sales and Service, **Allied Chemical Corp.,** succeeding William H. Metzger. Nishan Bogosian has been assigned to the New Jersey, Pennsylvania, Delaware, and Maryland territory. Harry A. Greene has joined the sales staff and will cover accounts in New England and New York. * * * Arthur Phillips, Jr., has been appointed

vice-president of Solvay Process division. Also named to new posts were: Verne W. Aubel, Jr., to director of sales; Robert L. Reynolds, assistant director of sales; and G. Richard Barclay, manager of the sales department's organic chemicals section.

Thomas D. Ramsey has been named district sales manager in the Gastonia, N. C., area for the Naugatuck Chemical division, **United States Rubber Co.** In his new capacity, Mr. Ramsey is responsible for sales of all the division's products in the South Atlantic district as well as the production of the Gastonia Lotol compounding plant.

J. W. Calvert has been appointed to the sales staff at the Spartanburg, S. C., office of **Whitin Machine Works.**

H. Merrill Bowman has joined **T. B. Wood's Sons Co.** as vice-president and director of sales. He succeeds Gordon M. Henderson, vice-president, who will assist the president, C. O. Wood, Jr., in the administrative and production operations.

Mr. Jackson
Dewey & Almy

Mr. Ramsey
U. S. Rubber

Mr. Bowman
T. B. Woods' Sons

Mr. Calvert
Whitin

Glenn D. Jackson, III, has been named sales representative for organic chemicals for the **Dewey and Almy Chemical Div.,** W. R. Grace & Co. His territory includes Georgia, Florida, and South Carolina.

Mount Hope Machinery Co. has completed a large addition to its plant in Taunton, Mass. Equipped with year-round air conditioning and a new system of shadowless, indirect lighting, the new construction increases the firm's shipping facilities, houses an enlarged engineering department, and provides additional general office space.

National Adhesives (Canada) Ltd. has begun construction of a vinyl emulsion polymerization plant to be located on the company's premises in Toronto, Canada. The firm is a subsidiary of **National Starch Products, Inc.** * * * Fred N. Roberts has been appointed to the newly-created position of coordinator, market research of National Starch Products, Inc. In his new capacity, Mr. Roberts will coordinate all of National's marketing sales planning, and market research activities.

Badger Manufacturing Co. has been awarded a contract for the design, engineering, procurement, and construction of a phthalic anhydride plant at Elizabeth, N. J., by **Reichhold Chemicals, Inc.** When completed in the early fall of 1959, the plant will nearly double the firm's

AMERICA'S FINEST
POSITIVE-LATCHING BALL BEARING
BOBBIN HOLDER

- Easy tripping—Positive latching—Freest running—Bullatnosed
- Faster for Operator to change
- Stainless steel precision balls—Stainless steel races —No rust drag
- The only thoroughly sealed ball assembly in any B.H. Prevents lint drag even after 2 or 3 years
- Short travel—Low head req'd
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- Speednut slips through rail slot—doesn't have to slide from railend
- Shipped completely assembled
- Finest B. H. avail. at any price
- One size fits 8 x 4 thru 12 x 7 bobbins

HOLDER 44c
NUT 01c
BRAKE 05c
50c

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ONLY A FEW BOOTHS LEFT!

Over 500 booths have already been reserved by leading suppliers of machinery, mill equipment, yarns, supplies and services for the 1959 Knitting Arts Exhibition.

This will be your last chance to reserve your own booth—to show off your product to the 10,000 knitting executives who will be coming to the Show from all parts of the world.

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SAXL TENSION METERS
Quick Trigger Action
For Yarns, Wires, Rubber, Cords and Tape
American made and serviced, always accurate
TENSITRON, INC., Harvard, Mass.

present phthalic anhydride production capacity.

The Ridge Tool Co. has installed pipe and bolt threading machines and a representative line of tools in the back of two new station wagons and is using them to demonstrate the company products to customers in middle western states.

Joseph N. Peters has been named manager of the Eastern Sales-Engineering division of **Ludell Manufacturing Co.** The new division will serve Pennsylvania, New Jersey, Delaware, and Metropolitan New York. Offices are in Hatboro, Pa.

Mr. Peters

Mr. Cupitt

Harold D. Cupitt has been appointed sales engineer in the Philadelphia, Pa., area by **New York & New Jersey Lubricant Co.** His headquarters are in Wayne, Pa.

The James Hunter Machine Co. has begun construction on a new plant to house facilities of its subsidiary company, **James Hunter, Inc.** The 35,000-sq ft building near Greenville, S. C., is scheduled for completion the early part of next year.

The Underwriters' Laboratories Type GS and LPS approval for safe operations in hazardous areas with both gasoline and propane fuel has been awarded to **Hyster Co.** cushion tired trucks from 3,000 to 8,000 lb capacity, and pneumatic tired trucks in the 2,000 to 5,000 lb capacity range.

Dixon Corp. has been awarded patent No. 2,834,996 covering the "Saddle Guide" self-aligning top roll device which the firm introduced to the trade in 1954.

Joseph F. Smart has been named vice-president of **Synthetic Textile Fibers, Inc.**, a sales agency dealing

BLUE BELL, INC.
World's Largest in Work and Play Clothes

Plants in several southeastern States. Our sales have doubled in the last ten years. We invite applications from men of related experience or for training in

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Tenter frame for wide carpeting, like new. Can be adapted to any type oven. Write Southern Industries, Inc., P. O. Box 1138, Anderson, S. C.

FINISHING SUPERINTENDENT AVAILABLE

Former superintendent, dyeing, bleaching, finishing plant with good references desires to get back into active textile operation. Age 45. Is familiar with all phases of dyeing, finishing, shipping. Also with cotton, wool, synthetics. Address or call EDWARD J. STELPSTRA 2501 S. Atlantic Ave., Daytona Beach, Fla.

WOOLEN CARDER AVAILABLE

Overseer of woolen carding with executive ability and 30 years of experience as supervisor on practically all fibers used in making woolen yarns wants a job with a well-established mill. Age 58. Protestant, sober, and energetic. Write Box 45, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 8, Ga.

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Our specialty is good used automatic loom bobbins. We also deal in twister and roving bobbins. Send us samples of what you need or what surplus bobbins you have.

CHARLES G. STOVER COMPANY
West Point, Georgia

in synthetic garnetts, with headquarters in Charlotte, N. C. The firm represents **Eisenberg Fibers, Inc.,** in the South.

Fiber Industries, Inc., has been formed under the joint ownership of Celanese Corp. of America and Imperial Chemical Industries, Ltd., of Great Britain (see November TI, page 67). Officers of the company are: James H. Black, president; Hewison Smith, vice-president in charge of marketing; Ian Rutherford, vice-president and technical director; and James Brennan, secretary-treasurer.

E. Connell has been assigned to the sales area of Tennessee, Georgia, Alabama, Kentucky, Ohio, Michigan, and Indiana by **Franklin Process Co.** division of Indian Head Mills, Inc. E. Ingle is covering the sales area which includes Tennessee, Georgia, Alabama, Mississippi, Arkansas, Florida, and Kentucky.

Edwin J. Busch, Jr., has been made divisional advertising manager for industrial products for **Gates Rubber Co.,** with headquarters in Denver, Colo. * * * The firm has let contracts for constructing warehouse and storage facilities in three cities. A 35,000 sq ft warehouse will be built in Charlotte, N. C., a one-story brick-veneer warehouse at Cleveland, O., and a carbon black storage building in Denver.

Lee J. Ross has been promoted to manager of the Atlanta, Ga., corrugated box plant of **Gaylord Container Corp.,** a division of Crown Zellerbach Corp. John H. Steinbruegge was made assistant to Mr. Ross and Ralph H. Jackson was named superintendent of the plant. At the same time, George O. King, Jr., was promoted to sales manager for the southeastern division which includes Virginia, South Carolina, North Carolina, Georgia, Northern Alabama, Eastern Kentucky, and Eastern Tennessee.

E. Forrest Kulp has been named district sales manager for Engineered Products division of **Gower Manufacturing Co.** He will head the firm's expanded sales effort in the North Carolina-Virginia area.

Mr. Kulp

Mr. Simms

Graton & Knight Co. has appointed Carson I. Simms manufacturers representative. He will supervise sales of the firm's products handled through jobbers and distributors in North Carolina, South Carolina, and part of Virginia.

Jerry J. Sarracino has been appointed plant superintendent of **Metro-Atlantic, Inc.** He is in charge of coordinating plant production and distribution.

The Atlanta District Office of Union Carbide Chemicals Company, division of **Union Carbide Corporation** has been moved to 1371 Peachtree Street, N.E., Atlanta 9, Georgia. The new telephone number is TRinity 3-2241. * * * Four technical representatives have been transferred by Union Carbide Chemicals Company, division of Union Carbide Corporation. The transfers are: D. Wallace Enright to the Chicago District; Alan J. Lyon to the Charlotte District; Alan R. Mitchell to the Philadelphia District; and Joseph L. Suhadolnik to the Newark District.

E. J. Thomas has been named chairman of the board of **Goodyear Tire & Rubber Co.,** replacing P. W. Litchfield, who becomes honorary chairman. Russell DeYoung becomes company president, P. E. H. Leroy was elected vice-chairman, Sam DuPree moved up to vice-president of production, and Richard A. Jay became assistant to the president.

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AUTOMATIC BALL-BEARING LOGGERHEAD

This ball-bearing loggerhead is designed to relieve excessive strain thrown against the head by unlocking it, thus preventing a breakdown.

It will increase picker room production. It will eliminate shut-downs. It will prevent stretched laps because of its ball-bearing, friction-free rollers.

Immediate delivery — guaranteed satisfaction!

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ADVERTISER'S INDEX

A

Acme Steel Company 191
Adell Chemical Co. 164
Aldrich Machine Works 25
American Air Filter Co. 122
American Moistening Co. 7
American MonoRail Co., Inc. 116
American Viscose Corp. 193
Andrews & Goodrich Division 44
Apex Chemical & Sales Corp. 167
Armstrong Cork Co. 20, 21
Ashworth Bros., Inc. 126
Atkinson, Haserick & Co. 186
Avondale Mills, Inc. 158

B

Barber Colman (Textile Div.) 172
Becco Chemical Division 16
Booth Co., Benjamin 24
Buffalo Forge Co. 41

C

Carbic Color & Chemical Co., Inc. 144
Celanese Corp. of America & Subsidiary Cos. 120, 121
Chandler-Machine Co. 168
Ciba Company, Inc. 153
Classified Ads 202
Clinton Corn Processing Co. 45
Clipper Belt-Lacer Co. 10
Cobble Bros. Mchy. Co. 52
Cocker Mach. & Fdry. Co. ..... Front Cover
Colgate-Palmolive Co. 64
Courtaulds 68

D

Darnell Corp., Ltd. 190
Dayton Rubber Co. 28, 29
Deublin Company 170
Diehl Mfg. Co. ..... Second Cover
Dow Chemical Company 26, 27, 195
Draper Corporation 17, 18, 56
Dronsfield Bros., Ltd. 170
Du Pont de Nemours & Co., Inc., E. I. (Electrochemicals Dept.) 205
Durant Mfg. Co. 188

E

Exact Weight Scale Co. 8

F

Fancourt & Co., W. F. 133
Felters Company 32
Ferguson Gear Co. 166
Fiber Controls Corp. 165
Foster Machine Co. 60
Franklin Process Co. 137

G

General Latex & Chemical Corp. 154
General Radio Co. 118
Georgia-Carolina Oil Co. 196
Goodyear Tire & Rubber Co., Inc. (Chemical Prod.) 5
Gulf Oil Corp. 12, 13

H

Harshaw Chemical Co. 146
Hart Products Corp. 30
Herr Mfg. Co. 147
Howard Bros. Mfg. Co. 200

I

International Salt Co. 58

J

Johnson Bronze Co. 164
Johnson Corp. 11

K

Keever Starch Company 128
Kidde Textile Mchy. Corp. 189
Knitting Arts Exhibition 201
Koppers Company, Inc. Chemicals & Dyestuffs Div. 171

L

Laurel Soap Mfg. Co. 162
Lockwood Greene Engineers 156
Loper Co., Ralph E. 164

M

Maguire & Co., Inc., John P. 169
McDonough Power Equipment, Inc. 198
Mead Atlanta Paper Co. 47
Milton Machine Works 197
Minnesota Paints, Inc. 187
Morton Machine Works 203
Muller, Messrs. Franz 19

N

National Aniline Division Allied Chemical & Dye Corp. 6, 68-A
Fibers Dept. 179
New York & New Jersey Lubricant Co. 199
Nopco Chemical Co. 185

P

Parks-Cramer Co. 34
Patterson-Kelley Co., Inc. 177
Penick & Ford, Ltd., Co. 33
Perfecting Service Company 194
Pittsburgh Corning Corp. (Foamglas Div.) 62
Pneumafil Corporation 33
Procter & Gamble Distributing Co. 206

R

Reliance Elec. & Engineering Co. 48
Ridge Tool Company 152
Roberts Co. 9
Ross Engr. Corp., J. O. 44

S

Saco-Lowell Shops 68-B, 124
Sandoz, Inc. 130
Sargent's Sons Corp., C. G. 31
Seydel-Woolley & Co. 49
Sirrine & Co., J. E. 63
Solvay Process Division, The Allied Chemical & Dye Corp. 51
Sonoco Products Co. 23
Southern Airways Co. 54
Southern Shuttles Div. 15
Southern States Equip. Corp. 46
Standard Brands, Inc. 148
Standard Chemical Prod., Inc. 14
Stauffer Chemical Co. 150
Steel Heddle Mfg. Co. 15
Stein, Hall & Co., Inc. 159

T

Terrell Mach. Co., Inc. ..... Third Cover
Texas Co. 2
Textile Industries 22, 168, 202
Textile Machine Works 138
Textile Shield Co., Inc. 200
Textile Shops 181
Theiler Corp., H. J. 167
Torrington Co. 134
Trumeter Company 192
Turbo Machine Co. 142

U

Universal Winding Co. 183
Uster Corporation 50

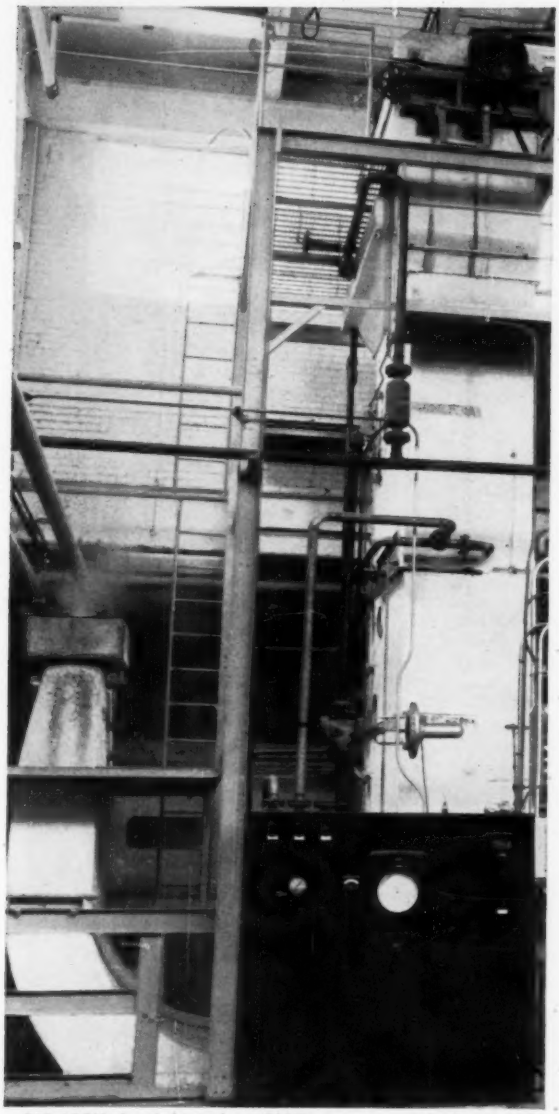
V

Veeder-Root, Inc. ..... Fourth Cover
Victor Ring Traveler Co. 66

W

Wallerstein Co., Inc. 161
Want Ads 202
Ward Steel Company 203
Whitehead Die Casting Co. 201
Whitin Machine Works 42, 43
Whitinsville Spinning Ring Co. 169
Wildman-Jacquard Co. 1
Wyandotte Chemicals Corp. 157

Another mill converts to the exclusive Solo-Matic Bleaching Process . . .



OLD J-BOX, already in service at Old Fort, was economically adapted to the improved Du Pont-type J-box through help and advice of a Du Pont Technical Representative.

Old Fort Finishing Co. saves floor space, improves bleaching quality of cotton broadcloth and piece goods

Now . . . over twenty-five mills are cutting costs and speeding production with the exclusive Solo-Matic Bleaching Process, available only from Du Pont!

Latest addition to the list is the Old Fort Finishing Co., Old Fort, N.C.—well-known producer of cotton broadcloth, print cloth and piece goods. Old Fort changed from 4-step caustic-chlorine batch bleaching to the simpler, more effective Du Pont Solo-Matic Process . . . cut floor space and processing time significantly. Bleaching quality improved—and with it uniformity in dyeing and finishing.

Your bleaching dollar goes further with Solo-Matic

Du Pont's Solo-Matic Process can help you save production and utilities costs as it has for so many mills. It can *double* your production in the same floor space, or maintain the same production in *half* that space with either new or existing equipment. In any case, you can count on improved brightness, fullness and uniformity in your product. Why not get all the facts about Du Pont's exclusive single-stage process? Just get in touch with your Du Pont Representative, or write us. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.

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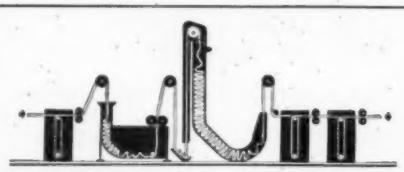

Du Pont's Solo-Matic process—the most advanced single-stage hydrogen peroxide bleaching process available

DON'T CONFUSE THE SOLO-MATIC WITH ANY OTHER PROCESS!

Other processes may *sound* similar, but there is *only one* Solo-Matic Bleaching Process and it was developed by Du Pont. It is essentially a chemical technique that can easily be adapted to any existing or new continuous peroxide bleaching installation. The Du Pont Solo-Matic Process is helping more than twenty-five well-known mills improve bleaching quality, cut costs.

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If you are interested in eliminating finishing difficulties and improving your processing and results, be sure to have the Procter & Gamble Textile Finishes experts evaluate your situation—without cost or obligation on your part. The data you receive will be based on *your* fabrics, *your* finishing procedures . . . and whatever other special materials or conditions are involved in *your* problems. And this expert analysis will be backed up by a specialized product or products selected from the many developed in the famous P&G laboratories.

For all the facts call the P&G Textile Representative nearest you. Or, if you prefer, write to Textile Finishes Section, Procter & Gamble, Industrial Specialty Sales Department, Cincinnati 1, Ohio.

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A remarkable new type of nonionic softener and lubricant. PROXOFT-N was developed by Procter & Gamble especially to give maximum stability with acids, salts and other trouble-making chemicals. It has the compatibility of the best nonionic agents and, at the same time, gives the desired lubricity and smooth, full-bodied softness which is characteristic of anionics. PROXOFT-N can be used advantageously on all types of natural and synthetic fibers.

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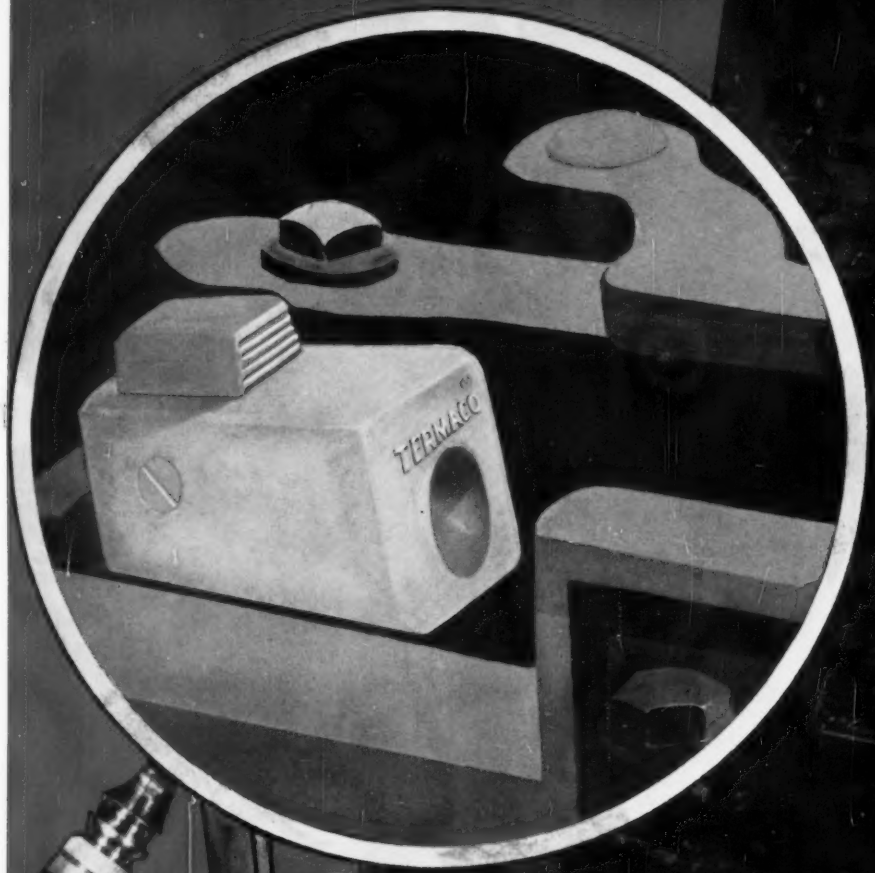

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